DEVELOPMENT CONSTRUCTION SPECIFICATION

C245

ASPHALTIC CONCRETE

Amendment Record for this Specification Part

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
EXAMPLE 1	*Provision for acceptance of nonconformance with deduction in Payment*	*XYZ.00*	*AP*	*KP*	*2/6/97*
A	AS/NZS ISO 9001	C245.03	M	MD	12/12/2013

Contents

C245.01 GENERAL

1. This specification details requirements for asphalt paving of road, footpath and parking areas and includes the following work:

a) Notification of residents,

b) Supply of all materials for the manufacture of asphaltic concrete,

c) Design of asphalt meeting the requirements of this specification,

d) Heating and mixing in an approved plant,

e) Sampling and testing,

f) Sweeping and cleaning and tack coating of surfaces to be treated,

g) Key in to existing pavement, kerbs and other fixtures,

h) Hauling asphaltic concrete from plant to site of work,

i) Spreading, compacting and finishing the asphaltic concrete,

j) Removal and disposal of excess materials and waste.

C245.02 REFERENCE DOCUMENTS

1. Australian Standards and Roads and Maritime Services Test Methods are referred to in abbreviated form; for example, AS1234 or T123. For convenience, the full titles are given below.

a. Australian Standards

AS1141	Sampling and Testing Aggregates
AS1160	Bituminous Emulsions for construction and maintenance of pavements
AS2008	Residual Bitumen for Pavements
AS2150	Asphalt (Hot Mixed)
AS2357	Mineral Fillers for Asphalt
AS2758.5	Aggregates and Rock for Engineering Purposes – Asphalt Aggregates
AS2734	Asphalt (Hot-Mixed) Paving - Guide to Good Practice
AS2891	Sampling and Testing of Asphalt
AS1742.3	Traffic control devices for works on roads

b. Council Specifications

C201 - Control of Traffic

c. Roads and Maritime Services

RMS Traffic Control at Worksites Manual

C245.03 QUALITY ASSURANCE

1. Asphaltic concrete contractors shall have Third Party Quality Assurance Accreditation to Australian Standard AS/NZS ISO 9001 for the manufacture, supply and laying of Asphaltic Concrete. Documentary evidence shall be provided to the PCA prior to placing any asphaltic concrete.

2. Records of quality assurance shall be maintained by the Contractor and be available for inspection on request.

C245.04 NOTIFICATION

1. Before commencing site operations, the Contractor shall notify all affected residents, businesses and the Principal Certifying Authority of the scheduled works.

2. Such notification shall consist of two parts:

   a. Written notice delivered at least seven days in advance of proposed work; and

   b. A further written or verbal confirmation delivered not less than 24 hours prior to commencement of work.

3. Such notices shall detail:

   - intended date of commencement;
   - duration of project;
   - hours of work;
   - name of street(s) affected and limits of work;
   - a contact phone number of Contractor's local representative;
   - description of work;
   - any precautions to be followed by the public.

4. A sample of proposed written notification for residents and businesses hall be submitted to the Principal Certifying Authority for approval prior to use.

C245.05 SUPPLY OF ASPHALT

1. Materials for Asphalt

(a) Aggregates

(i) Coarse Aggregate

Coarse aggregate comprises all mineral matter retained on a 4.75mm Australian Standard sieve. Coarse aggregate shall consist of crushed rock, metallurgical slag or gravel which is clean, dry, hard, tough, sound and free from dust, clay, dirt or other matter deleterious to asphalt.
The coarse aggregate shall conform to the following requirements -

- **Wet Strength - AS 1141.22**

  The wet strength shall not be less than 100kN for any fraction

- **Wet/Dry Strength Variation - AS1141.22**

  The wet/dry strength variation shall not exceed 35 percent for any fraction or constituent.

- **Particle Shape - AS1141.14**

  The proportion of misshapen particles in the fraction retained on the 9.50mm Australian Standard sieve shall not exceed 35 percent using a calliper ratio of 2:1.

- **Fractured Faces of Coarse Aggregate - Test Method T239**

  Aggregate which is retained on a 6.70mm Australian Standard sieve shall consist of at least 80 percent by mass of particles with at least two fractured faces.

(ii) Fine Aggregate

Fine aggregate comprises all mineral matter passing a 4.75mm Australian Standard sieve and retained on a 0.075mm Australian Standard sieve. The fine aggregate shall generally consist of natural sand or material derived from the crushing of sound stone or gravel and be free of coatings or loose particles of clay, silt or other matter deleterious to asphalt.

(b) Mineral Filler

Mineral filler comprises all material passing a 0.075mm sieve.

Mineral filler shall comply with AS 2357.

(c) Binder

1. The binder shall be bitumen conforming to the requirements of AS 2008.

2. The class of bitumen to be used in the work shall be Class 320 unless otherwise specified.

3. The Contractor shall when directed by the Principal Certifying Authority provide documentary evidence of the binder quality for each delivery used in a particular work.

(d) Polymer Modified Bitumens

1. Polymer modified bitumens shall be used where the asphaltic concrete will be subjected to traffic loads which will cause shoving and/or rutting such as roundabouts and queueing areas.

2. Polymer modified bitumens shall comply with the limits shown in Table C245.1 as appropriate and the requirements set out below.

3. The binder shall be pumped and stored at the manufacturer's recommended temperatures.

Table C245.1
Specified Properties for Polymer Modified Bitumens

Test	A3L	Test Method
Elastic Recovery at 60^{o}C (%)	90 min	MBT 21
Consistency on ER at 60^{o}C (Pa.s)	5000 min	MBT 21
Torsional Recovery at 25^{o}C (%)	50 min	MBT 22
Viscosity at 180 ^{o}C (Pa.s)	0.6 max	MBT 11

NOTE: For the purpose of assessing compliance with this Table samples shall be heated to 135°C without high shear mixing and immediately cast into test moulds.

2. Proportioning of mixes

The suppliers shall design nominal size mixes to comply with the general limits in Table C245.2. These mixes shall be known as the Nominated Mix. Mix designs For AC14, AC20 and AC28 complying with Roads and Maritime Services Specification Part R116 will be deemed to comply to this specification.

TABLE C245.2

ASPHALTIC CONCRETE MIX
GENERAL LIMITS

	Mix Designation						
	AC 5	AC 7	GG10	AC10	AC14	AC20	AC28
Marshall Stability (50 blows) kN (Min)	5	5	4	6	6.5	6.5	
Flow (mm)	2-4	2-4	2-5	2-4	2-4	2-4	
Voids in Compacted Mix (%)	3-7	3-7	2-6	3-7	3-7	3-7	3-7
Binder Grade	Class 170 or 320			Class 320 Bitumen			
	Mix Designation						
	AC 5	AC 7	GG10	AC10	AC14	AC20	AC28
	General Limits of Aggregate Grading (job mix to be designed within these limits)						
Sieve Size	**% Passing**						
37.5mm	-	-	-	-	-		100
26.5mm	-	-	-	-		100	90-100
19.0mm	-	-	-		100	95-100	72-90
13.2mm	-		100	100	85-100	70-90	55-80
9.5mm	-	100	90-100	90-100	70-85	55-80	45-70
6.7mm	100	80-100	65-85	70-90	60-80	45-70	35-60
4.75mm	85-100	70-90	60-80	60-80	50-72	38-60	30-50
2.36mm	55-75	45-60	55-75	40-60	35-55	27-50	20-40
1.18mm	38-57	35-50	45-65	27-45	25-44	18-40	14-30
600µm	26-43	22-35	30-50	17-35	17-32	14-29	10-25
300µm	15-28	14-25	20-30	13-26	10-24	9-22	6-18
150µm	8-18	8-16	10-18	7-16	7-16	6-15	4-14
75µm	5-11	5-8	5-11	4-10	4-8	3-7	3-7
Binder Content as percentage by mass of total mix	5-7	5-7	5.5-7.5	5-7	4.5-6.5	4-6	3.5-5.5
Ratio Filler/Binder content (by mass)	0.8 – 1.5						

3. Nominated Mixes

(a) Submission of Nominated Mixes

The Contractor shall submit details of each asphalt mix proposed together with test Certificates from a laboratory with appropriate N.AT.A. accreditation. Where mixes complying to the limits in Table C245.2 are already being produced, details of these mixes should be submitted in place of the design mix and be clearly defined as "Nominated Job Mix".

Work shall not commence until a nominated mix has been approved by the Principal Certifying Authority.

The aggregate grading and binder content of a nominated mix shall be known as the "nominated aggregate grading" and "nominated binder content" respectively.

The following details of nominated mixes shall be submitted to the Principal Certifying Authority :

(i) Constituent Materials

. Aggregates - source, geological type
. Mineral Filler - type, source.
. Binder - source, class or grade.
. Bitumen Adhesion Agent - name, type, source of supply.
. Relevant test results verifying material properties for the abovementioned materials.

(ii) Mix Design

Test results of the following properties of each nominated mix are to be supplied.

- Aggregate Grading.
- Binder Content, by mass of total mix.
- Marshall Stability (50 blows).
- Voids in the compacted mix, expressed as percent by volume.
- Proportion of each constituent by percentage of mass of total asphalt mix

The required testing shall have been carried out within the twelve month period prior to the date of submission to Council. Notwithstanding this, materials tested shall be representative of those which will constitute the asphalt to be supplied. All phases of any particular test shall be performed at one laboratory.

(b) Variations to Nominated Mixes

If the Contractor proposes to vary the proportions of the constituents in a nominated mix or proposes to change the source of supply of any constituent, the Contractor shall submit a new nominated mix.

4. Production of Asphalt

(a) Plant

Mixing shall be undertaken in a manufacturing plant which complies with AS 2150. The plant shall have sufficient capacity to supply asphalt for continous operation of the paver.

(b) Temperatures of Materials

Heating of aggregates shall be limited to such a temperature that, when mineral filler and binder are added, the temperature of the mixed asphalt shall be within the appropriate asphalt temperature range shown in Table C245.3.

TABLE C245.3

TEMPERATURE FOR PRODUCTION OF ASPHALT

Type of Binder	Class 170 Bitumen	Class 320 Bitumen
Binder Temperature	140^{O}C - 165^{O}C	145^{O}C-170^{O}C
Asphalt Temperature	140^{O}C - 165^{O}C	145^{O}C-170^{O}C

(c) Storage of Asphalt

Asphalt shall be stored in accordance with AS 2150, Section 7.

5. Properties of Plant Mix

During production, any mix produced shall not vary from the nominated mix by more than the amounts listed in Table 3.

TABLE C245.4

VARIATIONS TO NOMINATED MIX

Sieve Size	Permissible Variation Percent by Mass of Total Aggregate
4.7mm and larger	±7
2.36mm and 1.18mm	±5
600mm and 300mm	±4
150µm	±2.5
75µm	±1.5
Binder Content	± 0.3%

Marshall Stability, voids and Filler/Binder ratio shall not vary from the limits given in Table C245.2.

6. Sampling and Testing Asphalt

(a) Sampling. Asphalt shall be sampled at either the point of loading or the point of delivery to the work. Sampling of each nominal size of asphalt supplied shall be undertaken by the Contractor in accordance with AS 2891.1.

Council may take audit samples for testing by it's own staff or any NATA accredited organisation nominated by it.

(b) **Testing.** Asphalt supplied for the work shall be tested in accordance with Table C245.6 by, or on behalf of, the Contractor at his cost. Testing shall be carried out by a laboratory with appropriate N.A.T.A. accreditation.

(c) **Minimum Frequency of Sampling and Testing.** The minimum frequency of sampling and testing of asphalt for the quantity of asphalt supplied to the work each day shall be as specified in Table C245.5.

(d) **Test Results.** The Contractor shall provide copies of all test results prior to the release of the final plan of subdivision.

TABLE TABLE C245.5

MINIMUM FREQUENCY OF SAMPLING AND TESTING OF ASPHALT

Quantity of Asphalt Supplied Each Shift	Minimum Frequency of Sampling and Testing
Less than 100 tonnes	One per 50 tonnes, or part thereof
101 to 300 tonnes	One per 100 tonnes, or part thereof
301 to 600 tonnes	One per 150 tonnes, or part hereof
Over 600 tonnes	One per 200 tonnes, or part thereof

TABLE C245.6

TESTING OF ASPHALT

Characteristic Analysed	Test Method	Minimum Frequency of Sampling and Testing
Grading of combined aggregate	AS 2891.3.1	As set out in Table C245.5
Binder Content	AS 2891.3.1	As set out in Table C245.5
Voids in compacted asphalt	AS 2891.9.1	As set out in Table C245.5

C245.06 TRANSPORT

1. Delivery of the mix shall be at a uniform rate within the capacity of the spreading and compacting equipment. Transport shall be as expeditious as possible to minimise cooling of the asphaltic concrete.

2. Unless approval is given to other means of measurement, the mass of all truckloads of mix shall be measured on a weighbridge certified by the Department of Consumer Affairs.

C245.07 PREPARATION OF PAVEMENT

1. **Cleaning of Surface**. The existing surface shall be dry, clean and free of any loose stones, dirt and foreign matter. When sweeping is required it shall extend, if feasible, beyond the edge of the proposed asphaltic concrete layer by at least 300mm. Any foreign matter adhering to the pavement and not swept off by the broom shall be removed by other means. Any areas significantly affected by oil contamination shall be cleaned by an approved method.

2. **Key-in to Existing Fixtures and Surfaces**. Key-in to existing kerbs and fixtures shall be such that the total asphalt cover is not less than the pavement being surfaced

3. Where an existing pavement is being overlaid, transverse Key-in joints shall be provided at the start and finish of the overlay such that:-

   a. the compacted thickness of new asphalt at the joint is not less than 2.5 times the nominal size of aggregate in the mix.

   b. a smooth transition from the existing to new be at a grade not greater than 3%.

C245.08 TACK COAT

1. **General**. Except on unsealed surfaces or as otherwise directed by the Principal Certifying Authority, the whole of the area to be sheeted with asphaltic concrete shall be lightly and evenly coated with cationic rapid setting bitumen emulsion, conforming to the requirements of AS 1160.

2. The application rate of residual bitumen shall be 0.1 to 0.2 litres per square metre and shall be applied by a mechanical sprayer with spray bar, unless the areas to be sprayed are small, irregular or inaccessible to mechanical sprayers, in which case application by hand spraying or brushing may be permitted.

3. All contact surfaces or kerbs and other structures and all cold joints shall be coated with a thin uniform application of tack coat. Adequate time is to be allowed for the tack coat to break or cure before asphaltic concrete is laid. Over application of tack coat, due to existing surface depressions, shall be removed or dispersed by brushing.

4. **Precautions**. Care shall be taken to ensure that bitumen emulsion is not sprayed on, or allowed to coat any concrete kerbs, guardrail or bridge handrails adjacent to the pavement or

shoulder. Any material so sprayed shall be removed as directed by the Principal Certifying Authority.

5. In locations with heavy pedestrian traffic, such as shopping areas, extra care shall be taken to keep pedestrians off tack coated areas.

C245.09 SPREADING

1. The spreading procedure shall follow the guidelines as set out in Section 7 of AS 2734 for spreading by self propelled paving machines. The laying temperatures shall be according to Table C245.7 below.

TABLE C245.7

MIX LAYING TEMPERATURES

Road Surface Temperature in Shade (^{O}C)	Mix Temperatures ^{O}C			
	Layer Thickness Less Than 30mm	Layer Thickness 30mm to 40mm	Layer Thickness 45mm to 100mm	Layer Thickness Over 100mm
5-10	Not Permitted	150*	145*	130-155
10-15	150*	145*	140*	125-150
15-25	145*	140*	135*	120-145
Over 25	140*	135*	130*	115-140

* Minimum laying temperature.

2. The laying of asphaltic concrete will not be permitted when the surface of the road is wet or when cold winds chill the mix to such an extent that, in the opinion of the Principal Certifying Authority, spreading and compaction are adversely affected. The Principal Certifying Authority may reject that part of any truck load which contains lumps of cooled asphaltic concrete which are liable to affect the quality of the finished surface. Payment at the scheduled rate will be made for the actual quantity of asphaltic concrete used.

C245.10 COMPACTION

1. **Plant and Equipment**. Plant and equipment shall be as described in AS 2734, excepting that pneumatic rollers shall be used for secondary or intermediate rolling

2. **Acceptance Criteria for Compaction**. The acceptance for compaction shall be on a statistical basis where each day's work is a lot. When a days work is less than 100 tonnes of asphaltic concrete then two successive day's work may be aggregated as one lot. Any defective areas which show cracking, or bony or fatty material shall be excluded from the lot and shall be rectified by the Contractor before being tested.

3. For each lot the Contractor shall take the cores on a random basis from the whole area and perform density tests on the cores in accordance with AS 2891.9.1.

4. When the depth of the course is greater than 60mm, the Principal Certifying Authority may elect to use a nuclear density gauge to measure density insitu.

5. For core tests the layer thickness shall be deemed to be the mean thickness of the cores. For nuclear tests the layer thickness is the nominal layer thickness.

6. The results shall be expressed as % voids related to the mean maximum density of the lot determined in accordance with AS 2891.7.

7. The Characteristic value of in Situ Voids (SV) of a lot shall be calculated from the formula: -

$$SV = \bar{X} + ks$$

where $\bar{X}$ and **s** are the mean and standard deviation respectively of the individual void test values of the lot and **k** is a constant depending on the number of test values in the lot as described in Table C245.8 :-

Table C245.8

k	**No. of Tests**
1.06	3
0.98	4
0.94	5
0.92	6
0.91	7
0.90	8
0.89	9
0.88	10

8. In general, the number of tests per lot shall be six for cores and ten for nuclear density gauges. A different number of tests may be taken at the discretion of the Principal Certifying Authority.

9. No cores or nuclear density measurements shall be taken within 150mm of a joint or free edge. Unless directed by the Principal Certifying Authority, layers less than 30mm in thickness shall not be cored.

10. The Characteristic value of in Situ Voids (SV) shall not fall outside the range designated for the mix in Table C245.2. Where the compacted layer thickness is less than 50mm the range may be increased by 1% in each direction.

C245.11 JOINTS

1. **General**. The location of longitudinal and transverse joints shall be as approved by the

Principal Certifying Authority and at the spacing nominated in the drawings. The surface finish of the asphalt at joints shall by inspection be similar to that of the remainder of the layer.

2. **Longitudinal Joints**. An automatically controlled joint matching device shall be used to control the levels of adjacent runs. Care shall be taken to provide positive bond between adjoining runs. Longitudinal joints shall be:

a. continuous and parallel.

b. coincident within 150mm of line of change in crossfall.

c. offset by at least 150mm from joints in underlying layers.

d. located away from traffic wheel paths.

e. located beneath proposed traffic linemarkings in the case of a wearing course.

3. Work shall be arranged to avoid longitudinal joint faces being left exposed overnight.

4. When pavers are laying asphalt in echelon, the hot joint so produced shall be constructed by leaving an uncompacted strip approximately 150 mm wide along the edge of the first run, and after the adjoining run has been spread, both sides of the joint shall be rolled simultaneously.

5. A joint shall be considered 'cold' when the temperature of the asphalt has dropped below $80^{o}C$.

6. **Transverse Joints**. When the end of the asphalt layer has cooled due to disruption of the work, or when resuming work on the next day, a transverse joint shall be formed.

7. Transverse joints shall be at right angles to the direction of laying. They shall be staggered by at least 1.0 m between successive layers and between adjacent runs.

8. Runs shall end either against a timber bulkhead to ensure a straight vertical, well compacted edge or by feathering out and compacting. In the latter case, before continuing the run the feathered material shall be cut back to a line where the full layer thickness exists. The surface shape of the end of the run shall be checked by a straight edge to locate the line of cut. The end of the previous run shall be lightly tack coated before the laying of the next run proceeds.

9. When the asphalt layer is required to join and match the level of an existing pavement surface, bridge deck or other fixture, sufficient of the existing material shall be cut out to achieve the minimum layer thicknesses as set out in Table C245.9.

C245.12 LEVEL CONTROL AND FINISHED PAVEMENT PROPERTIES

1. For RMS classified roads, the riding quality of the finished surface as measured with a calibrated AUSTROADS roughness meter vehicle or laser profilometer, shall have a roughness value not exceeding 50 counts per kilometre.

2. Where the roughness value of an existing layer exceeds 70 counts per kilometre the resurfaced pavement shall have a value not exceeding the value (S)

3. The roughness value shall be determined as follows –

$$S = (A*0.6)+5 \text{ counts /km}$$

Where:

A= count prior to overlay, and S and A are reported to the nearest 1 count per km

i) Each lane shall be divided into sections 100 metres long. Any length less than 100 metres shall be included with the section immediately preceding it. Start and finish joints of the entire work shall not be included in any section.

ii) The Roughness Value, reported for each 100 metre section, shall be the average of three (3) repeat runs over each 100 metre section, reported in AUSTROADS roughness counts per kilometre.

iii) Roundabouts and other traffic calming devices shall not be measured according to this clause

4. The Principal Certifying Authority may require that the requirements of clause 245.11 apply to local roads with a design AADT greater than 2000 (10% heavy) or where the speed limit will be greater than 60 km/h.

5. For residential streets the finished surface shall not deviate from a 3m straight edge by more than 5 mm.

C245.13 TRAFFIC CONTROL

1. Traffic Control for the works shall comply with AS 1742.3 and be guided by the Roads and Maritime Service's "Traffic Control at Worksites Manual". All traffic controllers shall be accredited to RMS Standards and shall carry their current RMS endorsed Traffic Controllers Certificate.

2. Traffic arrangement diagrams (Traffic Plans) and evidence of traffic controllers accreditation shall be submitted for the Principal Certifying Authority approval at least 2 days prior to commencement of work. Records of plans used at each site shall be retained by the Contractor.

C245.14 CLEANING UP

1. The contractor shall remove and dispose of all surplus materials and waste generated by the works at the completion of the project.

C245.15 DEFECTIVE WORK

1. Work for which either the mix and/or paving work fails to meet this specification shall be rejected.

2. If the mix and/or paving work falls within the tolerances outlined in Table C245.9, Table C245.10 and Table C245.11, the Principal Certifying Authority may consider accepting the mix and/or paving work subject to the Contrator performing such remedial woks as required by and to the satisfaction of the Principal Certifying Authority.

3. **Voids.** The voids content of asphalt laid, when available, shall be used to determine whether the actions in Table C245.9 shall apply. In all other cases the voids in mix determined during plant control shall apply.

TABLE C245.9

LABORATORY DENSITY (50 BLOW MARSHALL) AIR VOIDS (%)	ACTION TO BE TAKEN FOR VARIATION IN SPECIFIED VOIDS (%)	
	DENSE GRADED	GAP GRADED
Less than 1	Material to be replaced	Material to be replaced
1	Contractor to show cause why the materail should not be removed	Contractor to show cause why the materail should not be removed
2	Contractor to show cause why the materail should not be removed	Accept
3	Accept	Accept
4	Accept	Accept
5	Accept	Accept
6	Accept	Accept
7	Accept	Contractor to show cause why the materail should not be removed
8	Contractor to show cause why the materail should not be removed	Contractor to show cause why the materail should not be removed
9	Contractor to show cause why the materail should not be removed	Contractor to show cause why the materail should not be removed
10	Contractor to show cause why the materail should not be removed	Material to be replaced
11 or greater	Material to be replaced	Material to be replaced

Note: In testing for voids content, the percentage of voids will be taken to the nearest whole number.

4. **Compaction**. The actions scheduled in Table C245.9 shall apply based on density tests taken in accordance with Clause C245.10.

5. **Aggregate Grading and Binder Content**. For asphalt having aggregate grading or binder content outside the limits specified in Clause 245.05, the deduction points shown in Table C245.10 shall apply, and shall be cumulative. If the combined deduction points exceed 20, the Contractor shall remove the asphalt and replace it with asphalt conforming to this specification at no cost to Council.

TABLE C245.10

DEDUCTION POINTS FOR AGGREGATE GRADING AND BINDER CONTENT

DESCRIPTION	VARIATIONS*	DEDUCTION POINTS
Aggregate Grading Element	**(% by mass of total aggregate)**	
Pass 37.5mm AS sieve	Each 2 or part thereof	1
Pass 26.5mm AS sieve	Each 2 or part thereof	1
Pass 19.0mm AS sieve	Each 2 or part thereof	1
Pass 13.2mm AS sieve	Each 2 or part thereof	1
Pass 9.50mm AS sieve	Each 2 or part thereof	1
Pass 6.70 mm AS sieve	Each 2 or part thereof	1
Pass 4.75mm AS sieve	Each 2 or part thereof	1
Pass 2.36mm AS sieve	Each 1 or part thereof	1
Pass 1.18mm AS sieve	Each 1 or part thereof	1
Pass 0.600mm AS sieve	Each 1 or part thereof	1
Pass 0.300mm AS sieve	Each 1 or part thereof	2
Pass 0.150mm AS sieve	Each 0.5 or part thereof	2
Pass 0.075mm AS sieve	Each 0.5 or part thereof	2
Binder Content for	**(% by mass of total asphalt mix)**	
20mm asphalt or smaller	Each 0.1 or part thereof	3
28mm and 40mm asphalt	Each 0.1 or part thereof	2
Filler/Binder Ratio	Each 0.1 or part thereof	1

Note* Outside the ranges for aggregate grading and binder content set out in Table C245.2.

6. **Riding Quality**. For sections having riding quality outside that specified in Clause C245.12, the actions in Table C245.11 shall apply.

TABLE C245.11

ACTION TO BE TAKEN FOR VARIATIONS IN RIDING QUALITY

Tolerance	Action
Roughness Count Rate above specified count (counts/km) >10	Top 30mm to be removed and replaced providing remaining thickness of layer >25mm otherwise remove and replace whole depth of layer
Deviation from a 3 m straight edge > 7mm	Top 30mm to be removed and replaced providing remaining thickness of layer >25mm otherwise remove and replace whole depth of layer

C245.15 WORK RECORDS

1. Work records shall include the following for each street treated;

- Date of treatment;
- Road name;
- Location of starting point from nearest intersection;
- Location of finishing point from nearest intersection;
- Length of work (m);
- Nominal pavement width (m);
- Area (including widenings) (m^2);
- Road temperature (^{0}C);
- Weather condition;
- Details of any non conformances.

2. A copy of the work record shown in Annexure A shall be provided to the Principal Certifying Authority prior to the release of the final plan of subdivision.

ANNEXURE A

ASPHALT WORK RECORD

Date: _____ Contractor: _____ Work Location: _____ch to: _____ch

Road Name: _____ Supplier: _____ From: _____ *(Crossroad or landmark)* towards _____

Road No: _____ Job No: _____ PMS/MMS Segment Numbers: _____

Plan No: _____ Mix Type: _____ New Surfacing ☐ Resurfacing ☐ Existing Surface Type: _____

Delivery								Paving										Remarks
Load No.	Time			Truck Reg'd No.	Docket No.	Nett Mass (t)	Mix Temperature Ex paver	Chainage		Paved Width (m)	Direction with or against chainage	Dist. from left edge to centre of run (m)	Thickness (mm)	Layer			Sample No. & Lot Size (tonnes) if sampled	Weather Work Stoppages, Start & Finish etc.
	Depot Plant	Arrive Job	Depart Job					From	To					1st	2nd	3rd		

Remarks:

Recorder: _____ Sampling by: _____ Suppliers Representative: _____ Contractor's Representative: _____

Affiliation: _____ Affiliation: _____ *(Signature)* *(Signature)*