

NCC Appendix 7/1: Permitted pavement options for S38 and S278 works

Unless otherwise stated reference to clauses and appendices are clauses and appendices within the 'Specification for Highway Works' published by Her Majesty's Stationery Office as Volume 1 of the Manual of Contract Documents for Highway Works (MCHW). Where there is reference to a substitute or alternative clause or appendix ("NCC"), including this appendix, the substitute or alternative clause or appendix shall take precedence.

Sub-base

Sub-base shall be Type 1 to Clauses 801, 802, and 803. Material shall be non-frost susceptible if it is used within 450mm of designed final surface of a road or paved central reserve.

Requirements for construction materials

Material Ref.	Clause Ref	Material	Special Requirements
SC1	NCC 971AR	SMA 14 surf 40/60	Course Aggregate: crushed rock and steel slag only Minimum PSV: to be approved Maximum AAV: to be approved Grit (SG1/G1) to be applied in accordance with NCC Clause 972AR where required by the approved design
SC2	NCC 971AR	SMA 10 surf 40/60	Course Aggregate: crushed rock and steel slag only Minimum PSV: to be approved Maximum AAV: to be approved Grit (SG1/G1) to be applied in accordance with Clause 972AR where required by the approved design
SC3	NCC 971AR	SMA 6 surf 100/150 Footway Surfacing	Course Aggregate: crushed rock and steel slag only Minimum PSV: N/A Maximum AAV: N/A
SC4	NCC 971AR	SMA 20 surf 40/60	Course Aggregate: crushed rock and steel slag only Minimum PSV: to be approved Maximum AAV: to be approved Sealing Grit (SG1/G1) to be applied in accordance with Clause 972AR

Material Ref.	Clause Ref	Material	Special Requirements
SC5	910 & 915	HRA 35/14 F surf 40/60 rec 14/20 Pre-coated chippings	EN13108-4 and PD 6691 Table C.2A col 10. Limiting wheel track values PD 6691 Table C.3 Course aggregate: crushed rock, blast furnace slag and steel slag only Minimum PSV: 50 Maximum AAV: 10 PD6691 Annex C Minimum PSV: to be approved Maximum AAV: to be approved Flakiness category: Fl ₂₀
SC6	911 & 915	HRA 35/14 F surf 40/60 des 14/20 Pre-coated chippings	EN13108-4 and PD 6691 Table C.2A col 10. Limiting wheel track values PD 6691 Table C.3 Course aggregate: crushed rock, blast furnace slag and steel slag only Minimum PSV: 45 Maximum AAV: 12 PD6691 Annex C Minimum PSV: to be approved Maximum AAV: to be approved Flakiness Category: Fl ₂₀
SC7	911	HRA 55/10 F surf 40/60 des	PD 6691 Annex C Table C2.A col 6 Course aggregate: crushed rock, blast furnace slag and steel slag only Minimum PSV: to be approved
SC8	911	HRA 55/10 F surf 100/150 des	PD 6691 Annex C Table C2.A col 6 Course aggregate: crushed rock only excluding limestone. Minimum PSV: to be approved
SC9	911	HRA 55/14 F surf 40/60 des	PD 6691 Annex C Table C2.A col 12 Course aggregate: crushed rock, blast furnace slag and steel slag only. Minimum PSV: to be approved
SC10	912	AC 14 close surf 100/150	PD6691 Table B.14 Minimum PSV: to be approved Maximum AAV: to be approved

Material Ref.	Clause Ref	Material	Special Requirements
SC11	912	AC10 close surf 100/150	PD6691 Table B.14 Minimum PSV: to be approved Maximum AAV: to be approved
SC12	909	AC 6 dense surf 100/150 Footway surfacing	PD6691 Table B.16 Minimum PSV: 55
SC13	909	AC 6 dense surf 160/220 Footway Surfacing	PD6691 Table B.16 Minimum PSV: 55
SC14	942	Thin Surface Course Systems	Traffic Count: TBD Site definition and Stress Level: to be approved Course Aggregate Min PSV: 68 Max AAV for systems based on surface dressing and slurry seal techniques: to be approved Max AAV for systems not based on surface dressing and slurry seal techniques: to be approved Minimum wheel tracking level required on BBA/HAPAS Certificate Road/tyre noise level required on BBA/HAPAS Certificate Average texture depth: Clause 942.13 Guarantee period: 5 years Surface Texture performance requirements: Clause 942.16

Material Ref.	Clause Ref	Material	Special Requirements
SC15	942	Thin Surface Course Systems	<p>Traffic Count: TBD</p> <p>Site definition and Stress Level: to be approved</p> <p>Course Aggregate Min PSV: 65</p> <p>Max AAV for systems based on surface dressing and slurry seal techniques: to be approved</p> <p>Max AAV for systems not based on surface dressing and slurry seal techniques: to be approved</p> <p>Minimum wheel tracking level required on BBA/HAPAS Certificate</p> <p>Road/tyre noise level required on BBA/HAPAS Certificate</p> <p>Average texture depth: Clause 942.13</p> <p>Guarantee period: 5 years</p> <p>Surface Texture performance requirements: Clause 942.16</p>
SC16	942	Thin Surface Course Systems	<p>Traffic Count: TBD</p> <p>Site definition and Stress Level: to be approved</p> <p>Course Aggregate Min PSV: 60</p> <p>Max AAV for systems based on surface dressing and slurry seal techniques: to be approved</p> <p>Max AAV for systems not based on surface dressing and slurry seal techniques: to be approved</p> <p>Minimum wheel tracking level required on BBA/HAPAS Certificate</p> <p>Road/tyre noise level required on BBA/HAPAS Certificate</p> <p>Average texture depth: Clause 942.13</p> <p>Guarantee period: 5 years</p> <p>Surface Texture performance requirements: Clause 942</p>

Material Ref.	Clause Ref	Material	Special Requirements
SC17	943	Hot Rolled Asphalt Surface Course (Performance Related Design Mix)	<p>Thickness: To be approved</p> <p>Minimum PSV: To be approved</p> <p>Maximum AAV: To be approved</p> <p>Minimum delivery temperature: Clause 945.4</p> <p>Maximum wind speed and minimum air temperature: Clause 945.4</p> <p>Provision of data: information on the properties of modified binder shall be provided either in the form of BBA certificate or sub-Clauses 937.3 and 943.4</p> <p>Cores shall be obtained in accordance with Clause 943.17</p> <p>Test temperature for wheel tracking and rut depth tests shall be 60°C</p> <p>Wheel tracking rate: 5.0mm/hr</p> <p>Wheel tracking rut depth: 7.0mm</p> <p>Coated chippings nominal size 20mm</p>
BC1	906	AC 20 dense bin 40/60 rec	<p>PD6691 Annex B Table B.11</p> <p>Course aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only.</p> <p>Layer thickness: 60mm</p>
BC2	906	AC 20 dense bin 100/150 rec	<p>PD6691 Annex B Table B.11</p> <p>Course Aggregate: crushed rock and blast furnace slag and steel slag only.</p> <p>Layer thickness: 60mm</p>
BC3	906	AC 20 dense bin 160/220 rec	<p>PD6691 Annex B Table B.11</p> <p>Course Aggregate: crushed rock and blast furnace slag and steel slag only.</p> <p>For use in footways only</p>
BC4	929	AC 20 HDM bin 40/60 des	<p>PD6691 Annex B Tables B.6 and B.7</p> <p>Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only.</p> <p>Layer thickness: 60mm</p>
BC5	929	AC 32 HDM bin 40/60 des	<p>PD6691 Annex B Tables B.5 and B.7</p> <p>Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only.</p>

Material Ref.	Clause Ref	Material	Special Requirements
BC6	905	HRA 50/20 bin 40/60 rec	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only.
BC7	905	HRA 60/20 bin 40/60 rec	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only.
REG1	NCC 971AR	SMA 6 surf 40/60 Carriageway Regulating	Clause 971AR Course Aggregate: crushed rock and steel slag only Minimum PSV: N/A Maximum AAV: N/A
REG2	907	HRA 50/10 bin 40/60 rec Regulating	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 30mm
REG3	907	HRA 50/14 bin 40/60 rec Regulating	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 35mm
REG4	907	HRA 50/20 bin 40/60 rec	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 50mm
B1	906	AC 32 dense base 40/60 rec	PD6691 Annex B Table B.11 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 100mm assuming 100mm total in layers above
B2	906	AC 32 dense base 100/150 rec	PD6691 Annex B Table B.11 Course Aggregate: crushed rock, blast furnace slag and steel slag only. Use of crushed gravel permitted provided the binder grade is reduced to 40/60 and material thickness maintained for 100/150 pen option. Minimum thickness: 100mm assuming 100mm total in layers above

Material Ref.	Clause Ref	Material	Special Requirements
B3	906	AC 32 dense base 160/220 rec	PD6691 Annex B Table B.11 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 100mm assuming 100mm total in layers above
B4	929	AC 32 HDM base 40/60 des	PD 6691 Tables B.5 and B.7. Course aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 100mm assuming 100mm total in layers above
B5	904	HRA 60//32 base 40/60 rec	PD6691 Annex C Table C.1 Course Aggregate: crushed rock, crushed gravel, blast furnace slag and steel slag only. Minimum thickness: 100mm assuming 100mm total in layers above
FABM-1	890AR	FABM-1	Clause 890AR Mechanical Performance Level C6/8
SB1	803	Granular Type 1	Minimum equivalent CBR requirement 30%
SG1	NCC 972AR	Coated Grit	Method A as required by the approved design
G1	NCC 972AR	Grit	Method B (equestrians) as required by the approved design
HFS1	924	High Friction Surfacing	Type Classification: Class 1 - All other roads Minimum PSV: 70 Colour: to be approved The material shall not contain: <ul style="list-style-type: none"> - Lead Chromate; - Cadmium; or - Barium Where thin wearing course is to be covered by High Friction Surfacing (HFS) the contractor shall reduce the texture of the area of the thin wearing course system to between 1 and 2 mm as measured by the sand patch test. Where the surfacing is to be trafficked prior to the application of HFS, 3mm grit shall be applied and rolled in to provide enhanced short-term skid resistance. If wearing course is opened to traffic before High Friction Surfacing is laid, the Contractor shall erect temporary road signs as approved by the Highway Authority.

Material Ref.	Clause Ref	Material	Special Requirements
TC1	920	Tack/Bond Coat	BS 594987 clause 5 unless otherwise described within the approved design

[End]