Updated as at 24 July 2026

Index of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.

I. Normal Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Wearing Course	10WC/ASL/ZY/004	10WC/ASL/ZY/004	22-Aug-2024	27-Sep-2024	26-Sep-2027
20mm Wearing Course	20WC/ASL/ZY/004	20WC/ASL/ZY/004	08-Aug-2024	02-Sep-2024	01-Sep-2027
28mm Base Course	28BC/ASL/ZY/004	28BC/ASL/ZY/004	15-Aug-2024	04-Sep-2024	03-Sep-2027
37.5mm Base Course	40BC/ASL/ZY/004	40BC/ASL/ZY/004	11-Jul-2024	07-Aug-2024	06-Aug-2027
37.5mm Roadbase (recipe mix)	40RB/ASL/ZY/004	40RB/ASL/ZY/004	13-Jun-2024	03-Jul-2024	--

II. Reclaimed Asphalt Pavement (RAP) Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Wearing Course	10WC/ASL/ZY/RAP20/004	10WC/ASL/ZY/RAP20/004	30-Oct-2024	06-Dec-2024	05-Dec-2027
20mm Wearing Course	20WC/ASL/ZY/RAP20/004	20WC/ASL/ZY/RAP20/004	26-Sep-2024	06-Dec-2024	05-Dec-2027
28mm Base Course	28BC/ASL/ZY/RAP20/004	28BC/ASL/ZY/RAP20/004	07-Nov-2024	06-Dec-2024	05-Dec-2027
37.5mm Base Course	40BC/ASL/ZY/RAP20/004	40BC/ASL/ZY/RAP20/004	09-Oct-2024	06-Dec-2024	05-Dec-2027
37.5mm Roadbase (recipe mix)	40RB/ASL/ZY/RAP15/004	40RB/ASL/ZY/RAP15/004	13-Jun-2024	03-Jul-2024	--

III. Reclaimed Asphalt Pavement (RAP) with Lime Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Wearing Course	10WC/ASL/ZY/RAP20/LIME/004	10WC/ASL/ZY/RAP20/LIME/004	27-May-2024	24-Jun-2024	23-Jun-2027
20mm Wearing Course	20WC/ASL/ZY/RAP20/LIME/004	20WC/ASL/ZY/RAP20/LIME/004	28-Feb-2024	25-Mar-2024	24-Mar-2027
28mm Base Course	28BC/ASL/ZY/RAP20/LIME/004	28BC/ASL/ZY/RAP20/LIME/004	07-Mar-2024	12-Apr-2024	11-Apr-2027
37.5mm Base Course	40BC/ASL/ZY/RAP20/LIME/004	40BC/ASL/ZY/RAP20/LIME/004	25-Jul-2024	19-Aug-2024	18-Aug-2027
37.5mm Roadbase (recipe mix)	40RB/ASL/ZY/RAP15/LIME/004	40RB/ASL/ZY/RAP15/LIME/004	09-Apr-2024	30-Apr-2024	--

IV. Lime Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Wearing Course	10WC/ASL/ZY/LIME/004	10WC/ASL/ZY/LIME/004	01-Aug-2024	02-Sep-2024	01-Sep-2027
20mm Wearing Course	20WC/ASL/ZY/LIME/004	20WC/ASL/ZY/LIME/004	20-Jun-2024	06-Aug-2024	05-Aug-2027
28mm Base Course	28BC/ASL/ZY/LIME/004	28BC/ASL/ZY/LIME/004	04-Jul-2024	23-Jul-2024	22-Jul-2027
37.5mm Base Course	40BC/ASL/ZY/LIME/004	40BC/ASL/ZY/LIME/004	13-Nov-2024	06-Dec-2024	05-Dec-2027
37.5mm Roadbase (recipe mix)	40RB/ASL/ZY/LIME/004	40RB/ASL/ZY/LIME/004	13-Jun-2024	03-Jul-2024	--

V. Polymer Modified Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Polymer Modified Friction Course	10PMFC/ASL/ZY/PG/004	10PMFC/ASL/ZY/PG/004	25-Mar-2024	30-Apr-2024	29-Apr-2027
3.35mm Polymer Modified Cushion Course	CC/ASL/ZY/PG/004	CC/ASL/ZY/PG/004	02-Apr-2024	30-Apr-2024	29-Apr-2027
10mm Polymer Modified Stone Mastic Asphalt	10PMSMA/ASL/ZY/PG/VIA/004	10PMSMA/ASL/ZY/PG/VIA/004	09-Apr-2024	30-Apr-2024	29-Apr-2027
6mm Polymer Modified Stone Mastic Asphalt	6PMSMA/ASL/ZY/PG/VIA/004	6PMSMA/ASL/ZY/PG/VIA/004	31-May-2024	05-Jul-2024	04-Jul-2027

VI. Highly Modified Mix

Bituminous Material	HyD Mix No.	Supplier's Mix No.	Date of Design	Approval Date	Expiry Date
10mm Highly Modified Friction Course	10HMFC/ASL/ZY/PG/004	10HMFC/ASL/ZY/PG/004	14-May-2024	27-Jun-2024	26-Jun-2027
3.35mm Highly Modified Cushion Course	HMCC/ASL/ZY/004	HMCC/ASL/ZY/004	06-Mar-2025	21-Mar-2025	20-Mar-2028
10mm Highly Modified Stone Mastic Asphalt	10HMSMA/ASL/ZY/PG/VIA/004	10HMSMA/ASL/ZY/PG/VIA/004	02-May-2024	04-Jun-2024	03-Jun-2027
6mm Highly Modified Stone Mastic Asphalt	6HMSMA/ASL/ZY/PG/VIA/004	6HMSMA/ASL/ZY/PG/VIA/004	03-Sep-2024	20-Nov-2024	19-Nov-2027

Remark: Mix design details are tabled in the appropriate spreadsheets.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(Normal Mix)

1. Source and Type of Constituent Materials :

Constituent Material	Source	Type
Bitumen	Shell (Hong Kong) Limited	Grade Pen 60/70 FreshAir
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Filler (passing 75 μ m BS sieve)	Zi Ye Quarry, China	Crushed rock filler

2. Mix Designs :

Bituminous Material	10mm Wearing Course		20mm Wearing Course		28mm Base Course		37.5mm Base Course		37.5mm Roadbase (recipe mix)	
HyD Mix No.	10WC/ASL/ZY/004		20WC/ASL/ZY/004		28BC/ASL/ZY/004		40BC/ASL/ZY/004		40RB/ASL/ZY/004	
Supplier's Mix No.	10WC/ASL/ZY/004		20WC/ASL/ZY/004		28BC/ASL/ZY/004		40BC/ASL/ZY/004		40RB/ASL/ZY/004	
Date of Design	22-Aug-2024		08-Aug-2024		15-Aug-2024		11-Jul-2024		13-Jun-2024	
Approval Date	27-Sep-2024		02-Sep-2024		04-Sep-2024		07-Aug-2024		03-Jul-2024	
Expiry Date	26-Sep-2027		01-Sep-2027		03-Sep-2027		06-Aug-2027		--	
	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Data	GS Requirement*
Binder content (%)	6.0	5.5 - 6.5	5.0	4.5 - 5.5	4.5	4.0 - 5.0	4.0	3.5 - 4.5	3.5	3.0 - 4.0
B.S. Sieve (mm)	% Passing		% Passing		% Passing		% Passing		% Passing	
50							100	100	100	100
37.5					100	100	100	96 - 100	100	90 - 100
28			100	100	100	96 - 100	94	87 - 100	94	70 - 94
20			97	93 - 100	93	86 - 100	71	64 - 78	71	62 - 84
14	100	100	82	75 - 89	73	66 - 80	58	51 - 65	--	--
10	99	95 - 100	81	74 - 88	72	65 - 79	57	50 - 64	57	49 - 67
5	74	64 - 78	70	63 - 77	51	44 - 58	43	36 - 50	43	37 - 55
2.36	56	49 - 63	56	49 - 63	40	33 - 47	34	27 - 41	34	27 - 43
1.18	37	30 - 44	37	30 - 44	26	19 - 33	23	16 - 30	--	--
0.60	25	20 - 30	25	20 - 30	18	13 - 23	16	11 - 21	16	13 - 28
0.30	17	12 - 22	17	12 - 22	12	7 - 17	11	6 - 16	11	7 - 21
0.15	11	8 - 14	11	8 - 14	9	6 - 12	8	5 - 11	--	--
0.075	6.4	4.4 - 8.4 9.4[#]	6.4	4.4 - 8.4 9.4[#]	5.0	3.0 - 7.0 8.0[#]	4.6	2.6 - 6.6 7.6[#]	4.6	2.0 - 8.0 8.0[@]
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	4.2	3.0 - 5.0	4.6	3.0 - 5.0	4.8	3.0 - 5.0	4.4	3.0 - 5.0	--	--
Voids in mineral aggregate, VMA (%)	17.7	≧16	16.0	≧14	15.2	≧13	13.7	≧12.5	--	--
Marshall stability (kN)	12.2	≧10	14.2	≧10	16.2	≧10	16.3	≧10	--	--
Flow (mm)	2.9	≦4.0	3.1	≦4.0	3.1	≦4.0	4.0	≦4.0	--	--

* For reference only

[#] The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.

[@] The precentage passing the 0.075mm BS test sieve shall not exceed 8.0%.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(RAP Mix)

1. Source and Type of Constituent Materials :

Constituent Material	Source	Type
Bitumen	Shell (Hong Kong) Limited	Grade Pen 60/70 FreshAir
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Filler (passing 75 μm BS sieve)	Zi Ye Quarry, China	Crushed rock filler

2. Mix Designs :

Bituminous Material	10mm Wearing Course		20mm Wearing Course		28mm Base Course		37.5mm Base Course		37.5mm Roadbase (recipe mix)	
HyD Mix No.	10WC/ASL/ZY/RAP20/004		20WC/ASL/ZY/RAP20/004		28BC/ASL/ZY/RAP20/004		40BC/ASL/ZY/RAP20/004		40RB/ASL/ZY/RAP15/004	
Supplier's Mix No.	10WC/ASL/ZY/RAP20/004		20WC/ASL/ZY/RAP20/004		28BC/ASL/ZY/RAP20/004		40BC/ASL/ZY/RAP20/004		40RB/ASL/ZY/RAP15/004	
Date of Design	30-Oct-2024		26-Sep-2024		07-Nov-2024		09-Oct-2024		13-Jun-2024	
Approval Date	06-Dec-2024		06-Dec-2024		06-Dec-2024		06-Dec-2024		03-Jul-2024	
Expiry Date	05-Dec-2027		05-Dec-2027		05-Dec-2027		05-Dec-2027		--	
	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Data	GS Requirement*
Binder content (%)	6.0	5.5 - 6.5	5.0	4.5 - 5.5	4.5	4.0 - 5.0	4.0	3.5 - 4.5	3.5	3.0 - 4.0
B.S. Sieve (mm)	% Passing		% Passing		% Passing		% Passing		% Passing	
50							100	100	100	100
37.5					100	100	100	96 - 100	100	90 - 100
28			100	100	100	96 - 100	94	87 - 100	94	70 - 94
20			97	93 - 100	93	86 - 100	71	64 - 78	71	62 - 84
14	100	100	83	76 - 90	73	66 - 80	58	51 - 65	--	--
10	99	95 - 100	82	75 - 89	72	65 - 79	57	50 - 64	57	49 - 67
5	72	65 - 79	71	64 - 78	51	44 - 58	43	36 - 50	43	37 - 55
2.36	56	49 - 63	56	49 - 63	39	32 - 46	33	26 - 40	34	27 - 43
1.18	37	30 - 44	37	30 - 44	26	19 - 33	22	15 - 29	--	--
0.60	25	20 - 30	25	20 - 30	17	12 - 22	15	10 - 20	15	13 - 28
0.30	17	12 - 22	17	12 - 22	12	7 - 17	10	5 - 15	11	7 - 21
0.15	11	8 - 14	11	8 - 14	8	5 - 11	7	4 - 10	--	--
0.075	6.5	4.5 - 8.5 9.5[#]	6.5	4.5 - 8.5 9.5[#]	5.0	3.0 - 7.0 8.0[#]	4.5	2.5 - 6.5 7.5[#]	4.5	2.0 - 8.0 8.0[@]
	(including 20% RAP)		(including 20% RAP)		(including 20% RAP)		(including 20% RAP)		(including 15% RAP)	
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	4.7	3.0 - 5.0	3.9	3.0 - 5.0	4.0	3.0 - 5.0	4.5	3.0 - 5.0	--	--
Voids in mineral aggregate, VMA (%)	17.8	≧16	15.4	≧14	14.1	≧13	12.8	≧12.5	--	--
Marshall stability (kN)	14.2	≧10	15.6	≧10	15.7	≧10	16.6	≧10	--	--
Flow (mm)	3.1	≦4.0	2.9	≦4.0	3.1	≦4.0	3.6	≦4.0	--	--

* For reference only

[#] The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.

[@] The precentage passing the 0.075mm BS test sieve shall not exceed 8.0%.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(RAP with Lime Mix)

1. Source and Type of Constituent Materials :

Constituent Material	**Source**	**Type**
Bitumen	Shell (Hong Kong) Limited	Grade Pen 60/70 FreshAir
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Filler (passing 75 μm BS sieve)	Zi Ye Quarry, China Hydrated Lime - Great Wall Brand, China	Mixture of crushed rock filler and hydrated lime

2. Mix Designs :

Bituminous Material	**10mm Wearing Course**		**20mm Wearing Course**		**28mm Base Course**		**37.5mm Base Course**		**37.5mm Roadbase (recipe mix)**	
HyD Mix No.	10WC/ASL/ZY/RAP20/LIME/004		20WC/ASL/ZY/RAP20/LIME/004		28BC/ASL/ZY/RAP20/LIME/004		40BC/ASL/ZY/RAP20/LIME/004		40RB/ASL/ZY/RAP15/LIME/004	
Supplier's Mix No.	10WC/ASL/ZY/RAP20/LIME/004		20WC/ASL/ZY/RAP20/LIME/004		28BC/ASL/ZY/RAP20/LIME/004		40BC/ASL/ZY/RAP20/LIME/004		40RB/ASL/ZY/RAP15/LIME/004	
Date of Design	27-May-2024		28-Feb-2024		07-Mar-2024		25-Jul-2024		09-Apr-2024	
Approval Date	24-Jun-2024		25-Mar-2024		12-Apr-2024		19-Aug-2024		30-Apr-2024	
Expiry Date	23-Jun-2027		24-Mar-2027		11-Apr-2027		18-Aug-2027		--	
	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Grading	GS Requirement*	Design Data	GS Requirement*
Binder content (%)	6.0	5.5 - 6.5	5.0	4.5 - 5.5	4.5	4.0 - 5.0	4.0	3.5 - 4.5	3.5	3.0 - 4.0
B.S. Sieve (mm)	% Passing		% Passing		% Passing		% Passing		% Passing	
50							100	100	100	100
37.5					100	100	100	96 - 100	100	90 - 100
28			100	100	100	96 - 100	94	87 - 100	94	70 - 94
20			97	93 - 100	93	86 - 100	71	64 - 78	71	62 - 84
14	100	100	83	76 - 90	73	66 - 80	58	51 - 65	--	--
10	99	95 - 100	82	75 - 89	72	65 - 79	57	50 - 64	57	49 - 67
5	72	65 - 79	71	64 - 78	51	44 - 58	43	36 - 50	43	37 - 55
2.36	56	49 - 63	56	49 - 63	39	32 - 46	33	26 - 40	34	27 - 43
1.18	37	30 - 44	37	30 - 44	26	19 - 33	22	15 - 29	--	--
0.60	25	20 - 30	25	20 - 30	17	12 - 22	15	10 - 20	15	13 - 28
0.30	17	12 - 22	17	12 - 22	12	7 - 17	10	5 - 15	11	7 - 21
0.15	11	8 - 14	11	8 - 14	8	5 - 11	7	4 - 10	--	--
0.075	6.5	4.5 - 8.5 9.5#	6.5	4.5 - 8.5 9.5#	5.1	3.1 - 7.1 8.1#	4.6	2.6 - 6.6 7.6#	4.6	2.0 - 8.0 8.0@
	(including 20% RAP & 1.5% hydrated Lime)		(including 20% RAP & 1.5% hydrated Lime)		(including 20% RAP & 1.5% hydrated Lime)		(including 20% RAP & 1.5% hydrated Lime)		(including 15% RAP & 1.5% hydrated Lime)	
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	4.5	3.0 - 5.0	4.6	3.0 - 5.0	4.8	3.0 - 5.0	4.3	3.0 - 5.0	--	--
Voids in mineral aggregate, VMA (%)	18.2	≧16	16.1	≧14	14.2	≧13	13.3	≧12.5	--	--
Marshall stability (kN)	11.7	≧10	16.9	≧10	16.6	≧10	16.6	≧10	--	--
Flow (mm)	3.0	≦4.0	2.7	≦4.0	2.9	≦4.0	3.4	≦4.0	--	--
Hydrated Lime (%)	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5

* For reference only

The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.

@ The precentage passing the 0.075mm BS test sieve shall not exceed 8.0%.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(Lime Mix)

1. Source and Type of Constituent Materials :

Constituent Material	**Source**	**Type**
Bitumen	Shell (Hong Kong) Limited	Grade Pen 60/70 FreshAir
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)
Filler (passing 75 μm BS sieve)	Zi Ye Quarry, China Hydrated Lime - Great Wall Brand, China	Mixture of crushed rock filler and hydrated lime

2. Mix Designs :

Bituminous Material	**10mm Wearing Course**		**20mm Wearing Course**		**28mm Base Course**		**37.5mm Base Course**		**37.5mm Roadbase (recipe mix)**	
HyD Mix No.	10WC/ASL/ZY/LIME/004		20WC/ASL/ZY/LIME/004		28BC/ASL/ZY/LIME/004		40BC/ASL/ZY/LIME/004		40RB/ASL/ZY/LIME/004	
Supplier's Mix No.	10WC/ASL/ZY/LIME/004		20WC/ASL/ZY/LIME/004		28BC/ASL/ZY/LIME/004		40BC/ASL/ZY/LIME/004		40RB/ASL/ZY/LIME/004	
Date of Design	01-Aug-2024		20-Jun-2024		04-Jul-2024		13-Nov-2024		13-Jun-2024	
Approval Date	02-Sep-2024		06-Aug-2024		23-Jul-2024		06-Dec-2024		03-Jul-2024	
Expiry Date	01-Sep-2027		05-Aug-2027		22-Jul-2027		05-Dec-2027		--	
	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	GS Requirement*	Design Data	PS Requirement*
Binder content (%)	6.0	5.5 - 6.5	5.0	4.5 - 5.5	4.5	4.0 - 5.0	4.0	3.5 - 4.5	3.5	3.0 - 4.0
B.S. Sieve (mm)	% Passing		% Passing		% Passing		% Passing		% Passing	
50							100	100	100	100
37.5					100	100	100	96 - 100	100	90 - 100
28			100	100	100	96 - 100	94	87 - 100	94	70 - 94
20			97	93 - 100	93	86 - 100	71	64 - 78	71	62 - 84
14	100	100	82	75 - 89	73	66 - 80	58	51 - 65	--	--
10	99	95 - 100	81	74 - 88	72	65 - 79	57	50 - 64	57	49 - 67
5	71	64 - 78	70	63 - 77	51	44 - 58	43	36 - 50	43	37 - 55
2.36	56	49 - 63	56	49 - 63	40	33 - 47	34	27 - 41	34	27 - 43
1.18	37	30 - 44	37	30 - 44	26	19 - 33	23	16 - 30	--	--
0.60	25	20 - 30	25	20 - 30	18	13 - 23	16	11 - 21	16	13 - 28
0.30	17	12 - 22	17	12 - 22	12	7 - 17	11	6 - 16	11	7 - 21
0.15	11	8 - 14	11	8 - 14	9	6 - 12	8	5 - 11	--	--
0.075	6.5	4.5 - 8.5 9.5[#]	6.5	4.5 - 8.5 9.5[#]	5.1	3.1- 7.1 8.1[#]	4.6	2.6 - 6.6 7.6[#]	4.6	2.0 - 8.0 8.0[@]
	(including 1.5% hydrated lime)		(including 1.5% hydrated lime)		(including 1.5% hydrated lime)		(including 1.5% hydrated lime)		(including 1.5% hydrated lime)	
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	4.3	3.0 - 5.0	4.2	3.0 - 5.0	4.2	3.0 - 5.0	4.0	3.0 - 5.0	--	--
Voids in mineral aggregate, VMA (%)	17.6	≧16	15.8	≧14	14.6	≧13	13.4	≧12.5	--	--
Marshall stability (kN)	13.8	≧10	15.9	≧10	15.8	≧10	19.0	≧10	--	--
Flow (mm)	3.3	≦4.0	2.9	≦4.0	3.1	≦4.0	3.6	≦4.0	--	--
Hydrated lime (%)	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5	1.5	≧1.5

* For reference only

[#] The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.

[@] The precentage passing the 0.075mm BS test sieve shall not exceed 8.0%.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(Polymer Modified Mix)

1. Source and Type of Constituent Materials :

Constituent Material	**Source**	**Type**			
		10PMFC/ASL/ZY/PG/004	CC/ASL/ZY/PG/004	10PMSMA/ASL/ZY/PG/VIA/004	6PMSMA/ASL/ZY/PG/VIA/004
Bitumen	Shell (Hong Kong) Limited	Cariphalte Airfield PG76 Fuelsafe			
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)	Not applicable	Crushed rock (Granite)	
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)			
Filler (passing 75 μm BS sieve)	Zi Ye Quarry, China Hydrated Lime - Great Wall Brand, China	Mixture of crushed rock filler and hydrated lime			
Fibre	JRS - VIATOP premium	Not applicable		Cellulose Fibre	

2. Mix Designs :

Bituminous Material	**10mm Polymer Modified Friction Course**		**3.35mm Polymer Modified Cushion Course**		**10mm Polymer Modified Stone Mastic Asphalt**		**6mm Polymer Modified Stone Mastic Asphalt**	
HyD Mix No.	10PMFC/ASL/ZY/PG/004		CC/ASL/ZY/PG/004		10PMSMA/ASL/ZY/PG/VIA/004		6PMSMA/ASL/ZY/PG/VIA/004	
Supplier's Mix No.	10PMFC/ASL/ZY/PG/004		CC/ASL/ZY/PG/004		10PMSMA/ASL/ZY/PG/VIA/004		6PMSMA/ASL/ZY/PG/VIA/004	
Date of Design	25-Mar-2024		02-Apr-2024		09-Apr-2024		31-May-2024	
Approval Date	30-Apr-2024		30-Apr-2024		30-Apr-2024		05-Jul-2024	
Expiry Date	29-Apr-2027		29-Apr-2027		29-Apr-2027		04-Jul-2027	
	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	PS Requirement*
Binder content (%)	5.5	5.0 - 6.0	9.5	9.0 - 10.0	6.0	5.3 - 6.3	6.0	5.3 - 6.3
B.S. Sieve (mm)	% passing		% passing		% Passing		% Passing	
14	100	100			100	100	100	100
10	97	93 - 100			98	94 - 100	100	96 - 100
6.3	--	--	100	100	--	--	--	--
5	22	15 - 29	--	--	32	25 - 39	81	74 - 88
3.35	--	--	96	92 - 100	--	--	--	--
2.36	13	6 - 20	--	--	24	17 - 31	29	22 - 36
1.18	--	--	56	49 - 63	--	--	18	11 - 25
0.30	--	--	30	25 - 35	--	--	--	--
0.075	3.5	1.5 - 5.5 6.5[#]	15.9	13.9 - 17.9 18.9[#]	10.7	8.7 - 12.7 13.7[#]	8.2	6.2 - 10.2 11.2[#]
	(including 2% hydrated lime)		(including 2.1% hydrated lime)		(including 2% hydrated lime)		(including 2% hydrated lime)	
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	24.2	≧20	--	--	4.3	3.5 - 4.5	9.6	7.0 - 10.0
Voids in mineral aggregate, VMA (%)	--	--	--	--	18.0	≧17	21.9	≧17
Marshall stability (kN)	--	--	--	--	13.5	≧6	12.8	≧6
Binder draindown (%)	--	--	--	--	0.1	≦0.3	0.0	≦0.3
Marshall quotient (kN/mm)	--	--	1.0	0.7 - 1.2	--	--	--	--
Binder drainage test	Pass	Tmax > Binder content	--	--	--	--	--	--

***** For reference only

[#] The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.

Updated as at 24 July 2026

Summary of Provisionally Approved Mix Designs
Asphalt Surfaces (International) Ltd.
(Highly Modified Mix)

1. Source and Type of Constituent Materials :

Constituent Material	**Source**	**Type**			
		10HMFC/ASL/ZY/PG/004	HMCC/ASL/ZY/004	10HMSMA/ASL/ZY/PG/VIA/004	6HMSMA/ASL/ZY/PG/VIA/004
Bitumen	Shell (Hong Kong) Limited	Cariphalte PG 82			
Coarse Aggregate (retained on 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)	Not applicable	Crushed rock (Granite)	
Fine Aggregate (passing 5mm BS sieve)	Zi Ye Quarry, China	Crushed rock (Granite)			
Filler (passing 75 μm BS sieve)	Zi Ye Quarry, China Hydrated Lime - Great Wall Brand, China	Mixture of crushed rock filler and hydrated lime			
Fibre	JRS - VIATOP premium	Not applicable		Cellulose Fibre	

2. Mix Designs :

Bituminous Material	**10mm Highly Modified Friction Course**		**3.35mm Highly Modified Cushion Course**		**10mm Highly Modified Stone Mastic Asphalt**		**6mm Highly Modified Stone Mastic Asphalt**	
HyD Mix No.	10HMFC/ASL/ZY/PG/004		HMCC/ASL/ZY/004		10HMSMA/ASL/ZY/PG/VIA/004		6HMSMA/ASL/ZY/PG/VIA/004	
Supplier's Mix No.	10HMFC/ASL/ZY/PG/004		HMCC/ASL/ZY/004		10HMSMA/ASL/ZY/PG/VIA/004		6HMSMA/ASL/ZY/PG/VIA/004	
Date of Design	14-May-2024		06-Mar-2025		02-May-2024		03-Sep-2024	
Approval Date	27-Jun-2024		21-Mar-2025		04-Jun-2024		20-Nov-2024	
Expiry Date	26-Jun-2027		20-Mar-2028		03-Jun-2027		19-Nov-2027	
	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	PS Requirement*	Design Grading	PS Requirement*
Binder content (%)	5.5	5.0 - 6.0	9.5	9.0 - 10.0	6.0	5.3 - 6.3	6.0	5.3 - 6.3
B.S. Sieve (mm)	% passing		% passing		% Passing		% Passing	
14	100	100			100	100	100	100
10	97	93 - 100			98	94 - 100	100	96 - 100
6.3	--	--	100	100	--	--	--	--
5	22	15 - 29	--	--	34	27 - 41	81	74 - 88
3.35	--	--	96	92 - 100	--	--	--	--
2.36	13	6 - 20	--	--	25	18 - 32	29	22 - 36
1.18	--	--	56	49 - 63	--	--	18	11 - 25
0.30	--	--	30	25 - 35	--	--	--	--
0.075	3.5	1.5 - 5.5 6.5[#]	15.9	13.9 - 17.9 18.9[#]	10.7	8.1 - 12.1 13.7[#]	8.2	6.2 - 10.2 11.2[#]
	(including 2% hydrated lime)		(including 2.1% hydrated lime)		(including 2% hydrated lime)		(including 2% hydrated lime)	
	Marshall Properties		Marshall Properties		Marshall Properties		Marshall Properties	
Air voids in mix, VIM (%)	24.6	≧20	--	--	4.2	3.5 - 4.5	8.2	7.0 - 9.0
Voids in mineral aggregate, VMA (%)	--	--	--	--	18.0	≧17	21.0	≧17
Marshall stability (kN)	--	--	--	--	12.0	≧6	10.9	≧6
Binder draindown (%)	--	--	--	--	0.0	≦0.3	0.0	≦0.3
Marshall quotient (kN/mm)	--	--	1.2	0.7 - 1.2	--	--		
Binder drainage test	Pass	Tmax > Binder content	--	--	--	--		

* For reference only

[#] The percentage passing the 0.075mm BS sieve shall not deviate from the approved design value by more than 3%.