

Design Criteria 2360

Rev. 01/16/02

20 yr. ESAL's ⁽⁶⁾ Design Lane X 10 ⁶		Non Wear (>100 mm (4") from surface)	Wear (≤ 100mm (≤ 4") from surface)
All	Specify ⁽²⁾	SPNWB_ 30_ ⁽⁵⁾	SPWEB_ 40_ ⁽⁵⁾ SPWEB_ 30_ ⁽⁷⁾
	Option to Specify	Agg. Size A, C	Agg. Size A

General Notes:

1. Minimum Lift thickness:

- Agg. size A (12.5 mm (1/2") Maximum, **9.5 mm** Nominal) – 40 mm (1 1/2") minimum
- Agg. size B (19.0 mm (3/4") Maximum, **12.5 mm** Nominal) – 40 mm (1 1/2") minimum
- Agg. size C (25.0 mm (1") Maximum, **19.0 mm** Nominal) – 60 mm (2 1/2") minimum
- All wear courses shall be at least 40 mm (1 1/2") thick minimum.

2. Aggregate sizes specified and options listed should be used unless lift thickness precludes a larger aggregate size. The Contractor has the option to supply recycled mixture unless otherwise designated in the Special Provisions. With the approval of the Engineer, the Contractor may supply a gradation with a smaller max. aggregate size than that specified, i.e. size A in lieu of size B.

3. Specify size A when course/lift is less than 40 mm (1 1/2").

4. See Typical Sections for individual lift/course identification.

5. For mainline paving select the asphalt binder grade from the most current Tech Memo.

For shoulders where traffic is allowed, generally, use the same binder grade as the mainline.

For shoulders where traffic is prohibited select either PG 52 - 34 or PG 58 - 28 by matching the mainline low PG number. **I.E.. Mainline PG 64 - 28=> Shoulder PG 58 - 28**

6. For slow and standing traffic, consider selecting a higher high temperature binder grade and/or mix type.

7. Designation for wear mixture placed on shoulders. Note: 3.0 % air voids.

Mixture Designation Example: SPWEB440E

<u>Type</u>	<u>Lift</u>	<u>Max Agg. Size</u>	<u>Traffic Level (ESAL's X 10⁶)</u>	<u>Air Voids</u>	<u>Binder Grade</u>
SP	WE	A	1 (< 0.3)	30 (3.0)	A = PG 52 - 34
		NW	B C	2 (0.3 - 1.0)	40 (4.0)
			3 (1 - 3)		C = PG 58 - 34
			4 (3 - 10)		D = PG 58 - 40
			5 (10 - 30)		E = PG 64 - 28
			6 (30 - 100)		F = PG 64 - 34
			7 (> 100)		G = PG 64 - 40
					H = PG 70 - 28
					I = PG 70 - 34
					L = PG 64 - 22

The format for 2360 Pay Items will be as follows:

2360.501 Type SP __._ _____ Course Mixture (__,_).....metric ton (English ton)

An example of the pay item for the above mixture designation is:

2360.501 Type SP12.5 Wearing Course Mixture (4,E).....metric ton (English ton)

Note: Numbers in parenthesis denote the traffic level and the PG grade.

Design Criteria 2350

Rev0/16/02

20 yr. ESAL's ⁽⁷⁾ Design Lane X 10 ⁶		Non Wear > 75 mm (3") From Surface	Non Wear > 40 mm < 75mm (>1.5" < 3")From Surface	Wear ≤ 40 mm (1.5") From Surface
< 1 and Shoulders (AADT ≤ 2300)	Specify ⁽²⁾	LVNW35030_ ⁽⁶⁾	LVNW35030_ ⁽⁶⁾	LVWE35030_ ⁽⁶⁾
	Option to Specify	Agg. Size 1, 2, 4	Agg. Size 4	Agg. Size 4
1 - 3 (2300 < AADT < 6000)	Specify ⁽²⁾	LVNW35030_ ⁽⁶⁾	MVNW35035_ ⁽⁶⁾	MVWE35035_ ⁽⁶⁾
	Option to Specify	Agg. Size 1, 2, 4	Agg. Size 4	Agg. Size 4
> 3 (AADT ≥ 6000)	Specify ⁽²⁾	MVNW35035_ ⁽⁶⁾	HVNW36540_ ⁽⁶⁾	HVWE36540_ ⁽⁶⁾
	Option to Specify	Agg. Size 4	Agg. Size 4	Agg. Size 4

General Notes:

1. All wear courses shall be at least 40 mm (1 ½") thick minimum.
2. Aggregate sizes specified and options listed should be used unless lift thickness precludes a larger aggregate size. Minimum lift thickness is twice the maximum particle size, except as noted in 1 above. Contractor has the option to supply recycled mixture unless otherwise designated in the Special Provisions. With the approval of the Engineer, the Contactor may supply a gradation with a smaller max. aggregate size than that specified, i.e. size 4 in lieu of size 3.
3. Specify size 4 or 5 when course/lift is less than 40 mm (1 ½").
4. Specify size 5 for thin lift leveling identified as 18 mm (¾") or less.
5. The term Wear applies to all wearing courses (mainline and shoulder).
6. For mainline paving select the asphalt binder grade from the most current Tech Memo.
 For shoulders where traffic is allowed, generally, use the same binder grade as the mainline.
 For shoulders where traffic is prohibited select either PG 52 - 34 or PG 58 - 28 by matching the mainline low PG number. **I.E. Mainline PG 64 - 28 => Shoulder PG 58 - 28**
7. For slow and standing traffic, consider selecting a higher high temperature binder grade and/or mix type. For shoulders where traffic is allowed consider selecting a higher mixture type.

Mixture Designation Example: MVWE35035B

<u>Traffic Level</u>	<u>Lift</u>	<u>Max Agg. Size</u>	<u>No. Blows</u>	<u>Air Voids</u>	<u>Binder Grade</u>
LV	WE	1	50	30 (3.0)	A = PG 52 - 34 F = PG 64 - 34
MV	NW	2	65	35 (3.5)	B = PG 58 - 28 G = PG 64 - 40
HV		3		40 (4.0)	C = PG 58 - 34 H = PG 70 - 28
		4			D = PG 58 - 40 I = PG 70 - 34
		5			E = PG 64 - 28 L = PG 64 - 22

The format for 2350 Pay Items will be as follows:

2350.501 Type __ _ Wearing Course Mixture ____ metric ton (English ton)

An example of the pay item for the above mixture designation is:

2350.501 Type **MV 3** Wearing Course Mixture **B** metric ton (English ton)

Note: PG grade **is** included in the pay item.