




2026 ASPHALT BINDER & MIXTURE REFERENCE GUIDE

FOR IOWA DOT

In October of 2016, the Iowa DOT changed the nomenclature and the recommended asphalt binder grades for Iowa's roadways and published a reference guide card. Since that time, there have been updates to the guidance and specifications. The 2023 reference guide provided updated guidance for projects constructed under Iowa DOT requirements. The 2026 guide has been prepared to provide updates since 2023. See **Iowa DOT IM 510 Method of Design of Asphalt Mixture** for additional information. (Released February 2026)

DESIGN TRAFFIC (1X10 ⁶ ESALS)	AND/OR	DESIGN SPEED (MPH)	*CLASS A PROJECTS	**CLASS B PROJECTS	**CLASS B PROJECTS
≤ 1 M	AND/OR	> 45			
1-10 M	AND/OR	15-45	58-28S	58-28S	58-34S
> 10 M	OR	< 15	58-28H	58-28H	58-34H
> 10 M	AND	< 15	58-28V	58-28V	58-34V
> 10 M	AND	< 15	58-28E	58-28E	58-34E

S=Standard H= High V= Very High E= Extremely High

***CLASS A PROJECTS:** DOT Primary Highway and Interstate HMA Overlay ≤ 4"

PG 64-22 may be used south of I-80 if methods to retard reflective cracking are not used

****CLASS B PROJECTS:** DOT Primary Highway and Interstate Projects Including:

Full Depth Hot-Mix Asphalt | HMA + Cold-in-place Recycling | HMA + Rubblization
HMA + Crack and Seat | HMA Overlay > 4" | HMA + Full Depth Reclamation

MIXTURE SELECTION WITH ABBREVIATED DESIGN CRITERIA

DESIGN TRAFFIC (1X10 ⁶ ESALS)	MIXTURE DESIGNATION	LAYER	GYRATORY DENSITY		AGGREGATE ¹	
			N _{design}	Design (Target) % G _{mm}	Quality Type	Percent Crushed (min)
≤ 1.0 M	ST	Surface	50	96.0	A	60
		Intermediate			B	45
		Base		97.0		
1.0 – 10.0 M	HT	Surface	75	96.0	A	75
		Intermediate		96.5	B	60
		Base				
> 10 M	VT	Surface	95	96.0	A	85
		Intermediate		96.5	B	75
		Base				
	HMA Interlayer ²	Base	50	≥ 98.0	A	45
	HMA High Performance Thin Lift ³	Surface	50	≥ 98.0	A	50

¹ Flat & Elongated 10% maximum at a 5:1 ratio.

² See I.M. 510A, Table 3 for additional requirements.

³ See I.M. 510A, Table 4 for additional requirements.

STEP-BY-STEP BID ITEM CONSTRUCTION

STEP 1: Select Nominal Maximum Aggregate Size

- ¾" – Thin lifts, trails, athletic facilities
- ½" – General surface and intermediate mix
- ¾" – General base mix

STEP 2: Determine Traffic Level

- Standard Traffic (ST) ≤ 1M ESALs
- High Traffic (HT) 1M-10M ESALs
- Very High Traffic (VT) > 10M ESALs

STEP 3: Choose Lift Designation

- Base • Intermediate
 - Surface • Shoulder
- (Minimum lift thickness = 3 X NMA size)

STEP 4: Choose the Appropriate Binder

- Determine location and type of work.
- Use binder selection guide above to select recommended binder.

BID ITEM EXAMPLE

- HMA Standard Traffic (ST) surface, ½"
- Asphalt binder, PG 58-28S

EXAMPLE BINDER GRADE COMPARISON*

PREVIOUS PG	CURRENT PG	BINDER BUMP FOR RAP**
PG 58-28	PG 58-28S	PG 52-34S
PG 64-28	PG 58-28H	PG 52-34H
PG 70-28	PG 58-28V	PG 52-34V
PG 76-28	PG 58-28E	PG 52-34E

*Approximate equivalents

**Binder bump required when > 20% of binder is from RAP

ADDITIONAL INFO

FULL DEPTH PAVEMENTS

- Use "S" binder at depths > 3" or 4" from the surface

TYPICALLY AVAILABLE BINDERS

- PG58-28S, PG 58-28H, AND PG 64-22S

NON-TYPICAL BINDERS

- Small quantities of specialized binders (<25 tons of binder) may not be available or have a high cost.

HMA INTERLAYER BID ITEMS (SS-23009)

- **Mix** = HMA interlayer base course, ¾"
- **Binder** = PG 58-34E

HIGH-PERFORMANCE THIN LIFT BID ITEM (DS-23078)

- **Mix** = HMA thin lift surface course, ¾"
- **Binder** = PG 64-34E+

BASE WIDENING (2213.02)

- **Mix** = HMA ST, HT, or VT base, ½" or ¾"
- **Binder** = PG 58-28S, H, or V

SHOULDERS PAVED SEPARATELY (2122.02)

- **Mix** = HMA ST, HT, or VT base, ½" or ¾"
- **Binder** = PG 58-28S, 3% air voids
- **Intermediate & Surface:** As specified

PATCHING (2529 OR 2530)

- **Mix** = Any ST ½" or ¾" mix
- **Binder** = PG 58-28S or PG 64-22S, For overlay projects, intermediate or surface mix may be substituted.

DETOUR PAVING (2304)

- ST or HT Mixture, PG 58-28S or PG 64-22S Binder

COLD-IN-PLACE RECYCLING (2318)

- **Foamed asphalt:** PG52-34S
- **Asphalt emulsion:** HFMS-2s CSS-1

LEVELING AND GRADE CORRECTION (2303.03.C.7)

- Use the same mix specified for the base or intermediate course.