

PAVEMENT DESIGN USING SOIL FACTORS

Required Gravel Equivalency (G.E.) and concrete thickness for various Soil Factors (S.F.)
 For new construction or reconstruction use projected ADT. For resurfacing or reconditioning use present ADT.
 All units of G.E. and concrete are in inches.

<u>LESS THAN 400 ADT</u>					<u>150 - 300 HCADT</u>					<u>1100 - 1500 HCADT</u>					
7 Ton Bituminous			Concrete w/ Edge Support		9 Ton Bituminous			Concrete w/ Edge Support		9 Ton Bituminous			Concrete w/ Edge Support		
S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	
50	3.00	7.25	5.0	N/A	50	7.00	14.00	5.0	6.0	50	8.00	20.30	5.5	6.0	
75	3.00	9.38	5.0	N/A	75	7.00	17.50	5.0	6.0	75	8.00	26.40	6.0	6.0	
100	3.00	11.50	5.0	N/A	100	7.00	21.00	5.0	6.0	100	8.00	32.50	6.0	6.0	
110	3.00	12.40	5.0	N/A	110	7.00	22.40	5.5	6.0	110	8.00	35.00	Dowels Recommended	6.0	
120	3.00	13.20	5.0	N/A	120	7.00	23.80	5.5	6.0	120	8.00	37.40	Dowels Recommended	6.0	
130	3.00	14.00	5.0	N/A	130	7.00	25.20	5.5	6.0	130	8.00	39.80	Dowels Recommended	6.0	
<u>400 - 1000 ADT</u>					<u>300 - 600 HCADT</u>					<u>TYPE OF MATERIAL</u>					
7 Ton Bituminous			Concrete w/ Edge Support		9 Ton Bituminous			Concrete w/ Edge Support		<u>G.E. FACTOR*</u>					
S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	Plant-mixed Bit Spec 2350/2360					2.25
50	3.00	9.00	5.0	N/A	50	7.00	16.00	5.0	6.0	Plant-mixed Bit - Type 41, 61					2.25
75	3.00	12.00	5.0	N/A	75	7.00	20.50	5.5	6.0	Plant-mixed Bit - Type 31					2.00
100	3.00	15.00	5.0	N/A	100	7.00	25.00	5.5	6.0	Cold In-Place Rec./ Rubblized PCC					1.50
110	3.00	16.20	5.0	N/A	110	7.00	26.80	5.5	6.0	Bit. Pavement Reclamation					1.00
120	3.00	17.40	5.0	N/A	120	7.00	28.60	5.5	6.0	Aggregate Base (CI 5 & 6) 3138					1.00
130	3.00	18.60	5.5	6.0	130	7.00	30.40	Dowels Recommended	6.0	Aggregate Base (Class 3 & 4) 3138					0.75
										Select Granular Spec 3149.2B					0.50
<u>LESS THAN 150 HCADT</u>					<u>600 - 1100 HCADT</u>					<u>SOIL</u>					
9 Ton Bituminous			Concrete w/ Edge Support		9 Ton Bituminous			Concrete w/ Edge Support		<u>AASHTO SOIL CLASS</u>	<u>FACTOR (S.F.) %</u>	<u>ASSUMED R-VALUE</u>			
S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	S.F.	Minimum Bit. G. E.	Total G. E.	w/o dowels	w/ dowels	A - 1	50 - 75	70 - 75			
50	7.00	10.25	5.0	N/A	50	8.00	18.50	5.5	6.0	A - 2	50 - 75	30 - 70			
75	7.00	13.90	5.0	N/A	75	8.00	23.70	5.5	6.0	A - 3	50	70			
100	7.00	17.50	5.0	N/A	100	8.00	29.00	5.5	6.0	A - 4	100 - 130	20			
110	7.00	19.00	5.0	N/A	110	8.00	31.10	Dowels Recommended	6.0	A - 5	130 +	--			
120	7.00	20.50	5.0	N/A	120	8.00	33.20	Dowels Recommended	6.0	A - 6	100	12			
130	7.00	22.00	5.5	6.0	130	8.00	35.30	Dowels Recommended	6.0	A - 7 - 5	120	12			
										A - 7 - 6	130	10			