

NATURAL PRESERVATION ROUTES - 7 TON FLEXIBLE PAVEMENT DESIGN USING SOIL FACTORS^{1,4}

Required Gravel Equivalency (G.E. in inches) for various Soil Factors (S.F.)

For new construction or reconstruction use projected ADT or HCADT; for reconditioning projects use present ADT or HCADT

7 TON : LESS THAN 400 ADT			TYPE OF MATERIAL ²	SPECIFICATION	G.E. FACTOR	
S.F.	Minimum Bit G.E.	Total G.E.				
50	7	7.3 ⁵	Bituminous Pavement	2360	2.25	
75	7	9.4 ⁵	Cold-Inplace Recycling (CIR)	2331	1.5	
100	7	11.5	Rubblized Concrete	2231	1.5	
110	7	12.4	Full Depth Reclamation	2331	1	
120	7	13.2	Aggregate Base class 5 & 6	3138	1	
130	7	14	Aggregate Sub-Base class 3 & 4	3138	0.75	
			Select Granular Mat'l	3149.2B2	0.5	
7 TON : 400 to 1000 ADT			AASHTO SOIL CLASS	SOIL FACTOR (S.F.)	ASSUMED R-VALUE	GENERAL ³ PLASTICITY
S.F.	Minimum Bit G.E.	Total G.E.				
50	7	9 ⁵	A - 1	50 - 75	70 - 75	NP
75	7	12	A - 2	50 - 75	30 - 70	SP
100	7	15	A - 3	50	70	NP
110	7	16.2	A - 4	100 - 130	20	SP
120	7	17.4	A-5	130+	na	na
130	7	18.6	A - 6	100	12	P
			A - 7 - 5	120	12	P
			A - 7 - 6	130	8	P

Values may not be exact due to rounding

¹For 10 Ton design see page 31 in Mn/DOT Pavement Manual, July 2007, Chapter 5, Section 3, Figure 5-3-7. Bituminous Pavement Design Chart (Aggregate Base)

²See page 32 in Mn/DOT Pavement Manual, July 2007, Chapter 5, Section 3, Table 5-3.4 - Granular Equivalent (G.E.) factors

³General Plasticity: NP = nonplastic; SP= semi-plastic; P = plastic; na = not applicable (An A-5 soil rarely occurs in Minnesota)

⁴ Safety edge (30° to 35° wedge) are recommended to minimize edge dropoff. See www.dot.state.mn.us/stateaid/sa_safety_edge.html

⁵ These GE values are for the finished pavement section. During construction additional GE may be warranted for a construction platform.

Origin 1/11/2011

Revised: 11/9/2015