NATURAL RESOURCES CONSERVATION SERVICE

SPECIFICATION GUIDE

SURFACE ROUGHENING

CODE 609

The random roughness (K_{rr}) value used to estimate wind erosion shall be determined from Table 1. Random roughness (K_{rr}) shall be equal to or less than 0.75. The shaded area shows the RR – "I" factor combinations that meet the 25% reduction criteria.

Table 1. K_{rr} from Random Roughness (RR) and "I" Factor Values[1]

RR (in)	I = 104	I = 86	I £ 56
0.2"	1.0	1.0	1.0
0.4"	0.95	0.86	0.70
0.6"	0.88	0.76	0.51
0.8"	0.82	0.68	0.40
1.0"	0.78	0.62	0.34
1.2"	0.74	0.57	0.30
1.4"	0.72	0.54	0.27
1.6"	0.69	0.51	0.24

[1]*Note-I factor values >134 have a K_{rr} = 1.0, & the I of 134 soil will not reach a 25% reduction at any RR.*

Random Roughness (RR) values shall be estimated using Table 2, Random Roughness Core Values, or estimated using the roughness pictures in Agriculture Handbook 703 Appendix C, pages 337 to 347.

The following core values are typical and representative for field operations in medium textured soils tilled at optimum moisture conditions.

Table 2. Random Roughness Core Values

Field Operation	Random Roughness (RR SD in inches)
Chisel, sweeps	1.20
Chisel, straight point	1.50
Chisel, twisted shovels	1.90
Cultivator, field	0.70
Cultivator, row	0.70
Cultivator, ridge till	0.70
Disk, 1 way	1.20
Disk, heavy plowing	1.90
Disk, tandem	0.8
Drill, double disk	0.40
Drill, deep furrow	0.50
Drill, no-till	0.40
Drill, no-till into sod	0.30
Fertilizer knife	0.60
Harrow, spike	0.40
Harrow, tine	0.40
Lister	0.80
Manure injector	1.50
Moldboard plow	1.90
Mulch treader	0.40
Planter, no-till	0.40
Planter, row	0.40
Rodweeder	0.40
Rotary hoe	0.40
Vee riper	1.20