

PAVEMENT SUBGRADE PERFORMANCE STUDY (VOLUME IV)

Results from accelerated pavement testing of an A-4 subgrade soil

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EXECUTIVE SUMMARY

INTRODUCTION

As part of an international study on pavement subgrade performance, several full-scale test sections were constructed in the Frost Effects Research Facility (FERF) at the U.S. Army Cold Regions Research & Engineering Laboratory (CRREL) in Hanover, New Hampshire and subjected to accelerated pavement load testing. The test sections were constructed from different subgrade soils at different moisture contents. A detailed overview of the project can be found in Janoo et al (2001). The test sections consisted of 76 mm asphalt concrete (AC) layer, 229 mm crushed gravel base and 3 m of test subgrade soil. They were instrumented with stress cells, strain gages, moisture, and temperature sensors. The test sections were subjected to accelerated loading using the Heavy Vehicle Simulator (HVS). Surface rut depth measurements were taken periodically during the accelerated load tests. Pavement failure was defined at 12.5-mm surface rut depth. At the same time, subsurface stress and strain measurements were also taken. The testing was conducted at around 20 °C. The results from the full-scale accelerated load test section with n A-4 subgrade soil constructed wet of optimum moisture content and density are presented in this report.

MATERIAL PROPERTIES

The subgrade soil for this test section was obtained locally in Lyme, New Hampshire, USA. Approximately 1500 m³ of material was excavated from the site and stockpiled at CRREL. Routine classification tests conducted on the stockpiled material included optimum moisture, maximum density, gradation and hydrometer analyses, specific gravity, and liquid and plastic limits. Standard AASHTO test procedures were used. Additional details on the soil characterization can be found in Janoo et al, 2001. The average grain size distribution of the subgrade soil is shown in Figure 1.

The soil has approximately 85% passing the 0.074mm sieve. The average liquid limit (LL) and plasticity index (PI) of the soil was 28% and 8% respectively. The average specific gravity was 2.72. Using the American Association of Highway & Transportation Officials (AASHTO) soil classification system, the subgrade soil was characterized as an A-4. Using the Unified Soil Classification System (USCS), the subgrade soil was classified as silty sand (CL).

Optimum moisture content and maximum density tests were conducted on the subgrade material in the test section using the AASHTO test procedure, “*The Moisture-Density Relations of Soils Using a 5.5 lb (2.5 kg) Rammer and a 12 in. (305 mm) Drop (T 99-90)*”. Samples were collected from various parts of the stockpile for the test and the results from these tests are shown in Figure 2. The optimum density and moisture content was 1778 kg/cm³ and 16.5%respectively. The results from the classification tests are summarized in Table 1.

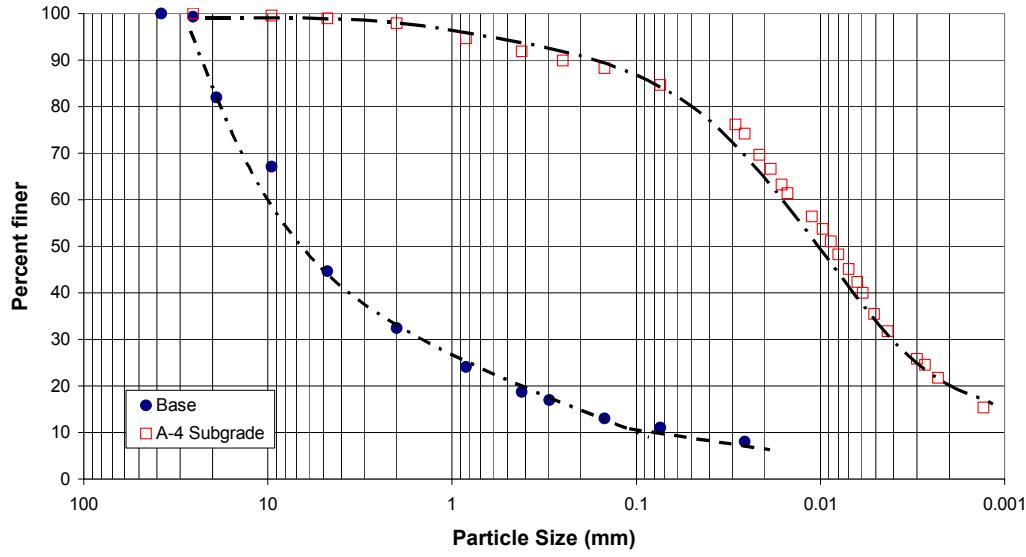


Figure 1. Grain size distribution for A-4 subgrade soil

Table 1. Summary of classification test on 704-test subgrade soil

AASHTO	A-4
USCS	CL
Spec. Gravity	2.72
LL (%)	28
PI	8
Optimum moisture content (%)	16.5
Maximum Density (kg/m ³)	1780
% passing #10	98
% passing #200	85

The base course was crushed gravel (No 304 NH State DOT base course specification) and was classified as an A-1-a or GP-GM using the AASHTO or ASTM classification systems respectively. This material was also stockpiled at CRREL. The base had about 11% passing the 0.074-mm sieve. The fines were classified as non-plastic. The standard and modified moisture density relationships for the base material using the AASHTO T-99 and AASHTO T-180 are presented in Figure 2b.

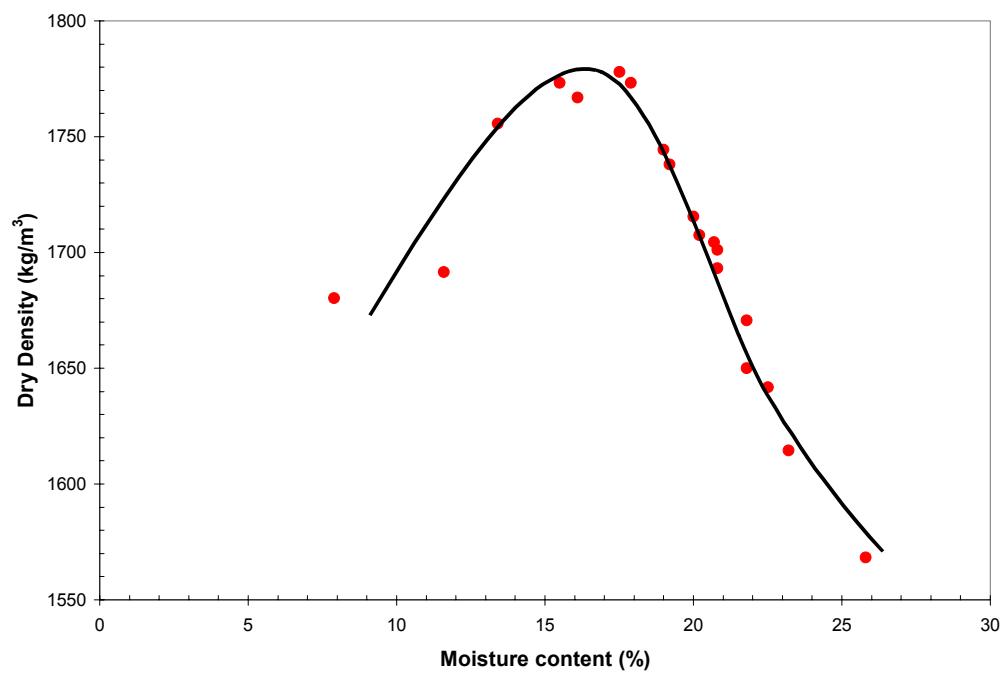


Figure 2a. Moisture Density relationship for A-4 subgrade soil

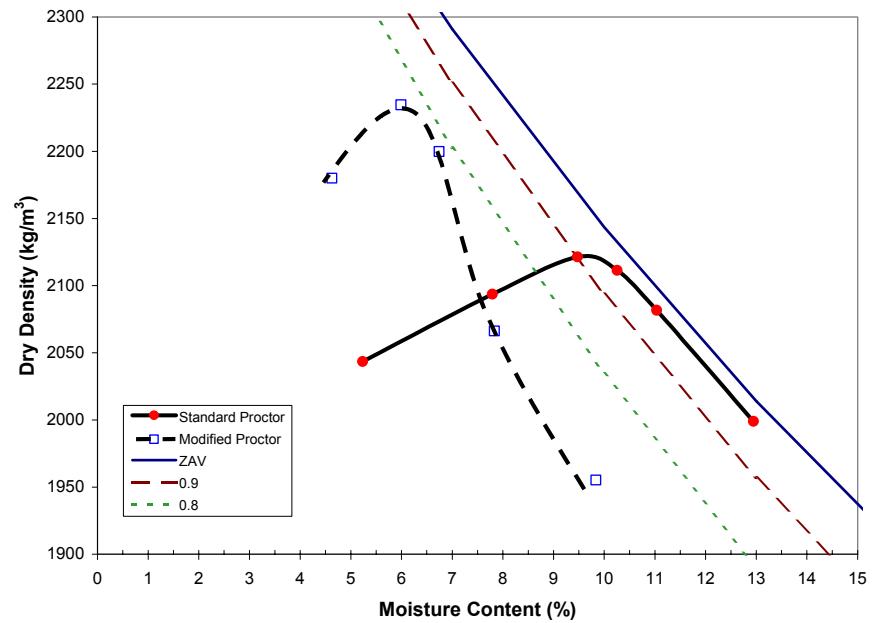


Figure 2b. Moisture Density relationships for base course

The optimum densities and moisture contents from the Standard and Modified Proctor tests are 2120 kg/m³ and 9.5% and 2235 kg/m³ and 6.0% respectively.

The asphalt layers were constructed in 2 layers of 50-mm base course and 25-mm surface course meeting New Hampshire Department of Transportation (NHDOT) Type B base course and NHDOT Type E surface course specifications respectively. The specifications are presented in Table 2. The binder used for the base and surface course mixes was characterized as PG66-22. . No tests were conducted on the asphalt mixture.

Table 2. NHDOT asphalt concrete gradation and asphalt content

Sieve size (mm)	Type B – Base Course			Type E – Surface Course		
	Min	Desired	Max	Min	Desired	Max
37.5						
25.0						
19.0	95	100	100			
12.7	70	81	92	95	100	100
9.50	60	71	80	85	90	95
4.75	42	50	57	60	66	75
2.00	28	32	38	38	46	50
0.84	16	20	24	24	27	32
0.425	9	13	17	14	19	23
0.18	3	7	11	6	11	14
0.075	0	3	4	2	3	6
% Asphalt Cement*	4.8	5.25	6.0	6.0	6.4	7.0

* The asphalt content is based on the use of aggregates with a specific gravity of 2.65 to 2.70.

DESCRIPTION OF TEST SECTION

The test section was constructed in the Frost Effects Research Facility (FERF). A detailed description of the FERF can be found in Appendix A. The test section was identified as 704 and was constructed on the northwest side of the building, as shown in Figure 3. The available area for the test section was 42 m long by 6.4 m wide and 3.7 m deep. Of the 42 m, approximately 19.5 m is sloped and the actual length used for testing was approximately 23 m long, Figure 4. As shown in Figure 4, are the 6 test windows within the test area for conducting accelerated load tests. Each test window was 7.8 m long of which the beginning 0.9 m and the end 0.9 m were used as acceleration and deceleration areas for the wheel. The area in between these two areas (6 m long) was the

areas, where the constant velocity tests were conducted. The width of each of the test window was 0.9 m. The center-to-center distance between the test windows was 1.2 m.

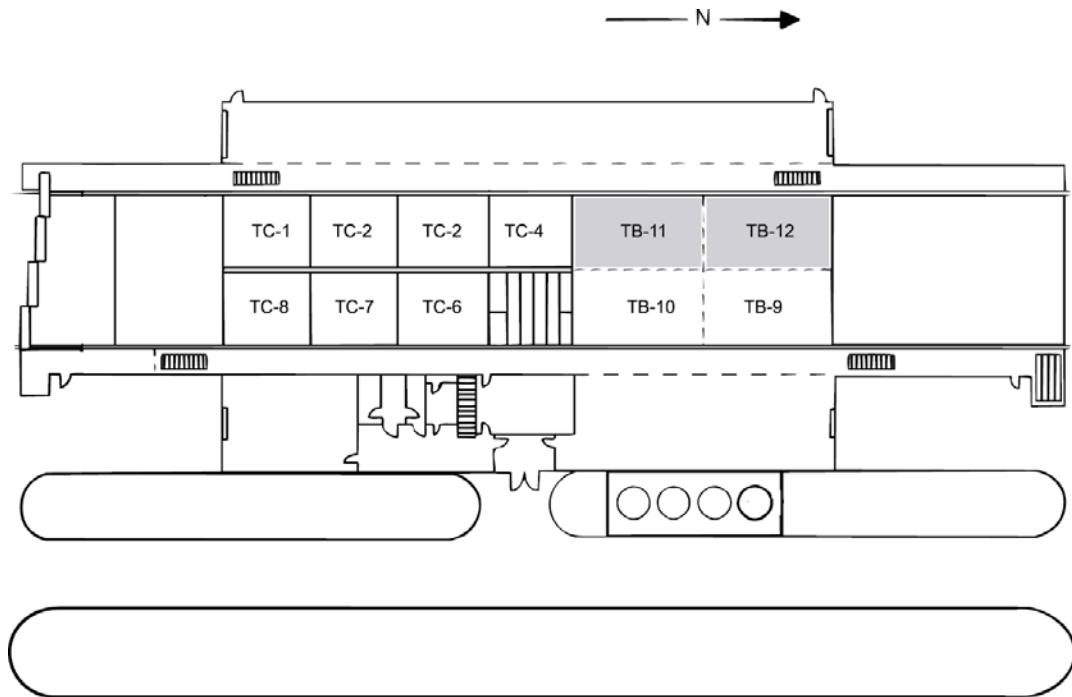


Figure 3. Test section area in the FERF.

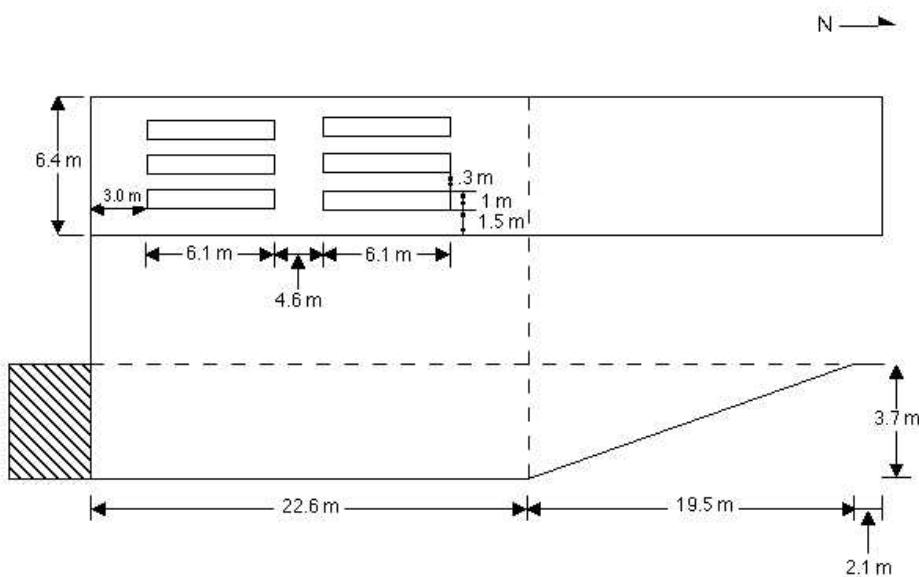


Figure 4. Location of test section in the FERF

The test section cross section was 76 mm of asphalt concrete, 229 mm of crushed base over 1.2 m of test subgrade soil; Figure 5. In this test section, only the top 1.2 m of test subgrade soil was replaced from a previous test section (TS702).

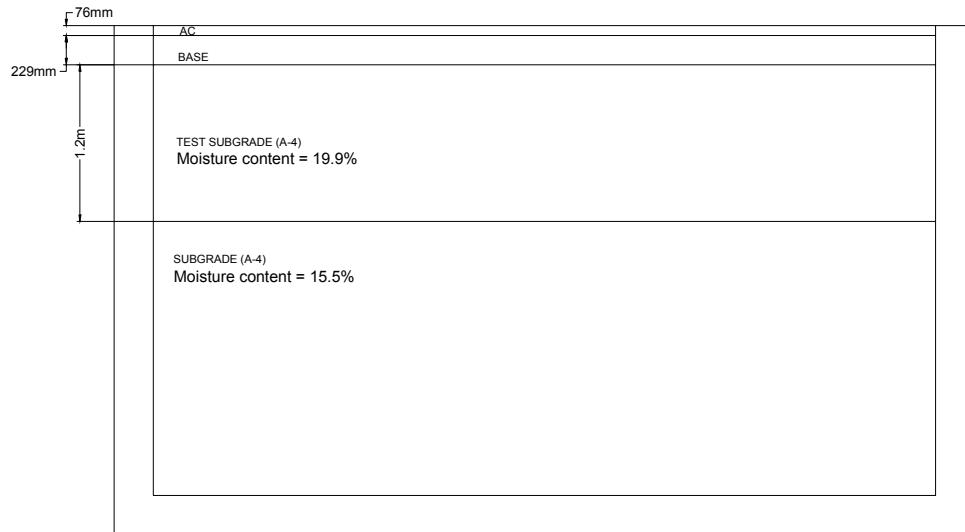


Figure 5. Cross section of test section.

CONSTRUCTION OF TEST SECTION

The specifications required that the subgrade be constructed in lifts and that each lift be compacted at moisture contents within $\pm 2\%$ of the optimum and to a density between 95 and 100% of the maximum dry density obtained from the Standard AASHTO T99 test procedure. The test section, which consisted of the top 1.2 m of subgrade soil, was constructed in 150 mm lifts. .

CONSTRUCTION CONTROL

Moisture and density measurements were taken on every 150 mm lift using the TROXLER nuclear gage at locations shown in Figure 6. On each lift, approximately 30 measurements were made for a total of 178 measurements over the construction of the subgrade. The results are presented in Table B-1, Appendix B.

A histogram and cumulative frequency plot of the dry density is presented in Figure 7. The mean dry density in the upper 1.2 m of the subgrade was 1700 kg/m^3 with a coefficient of variation (COV) of 2.4%. With respect to compaction, the average relative compaction (reference to the optimum density) was 96% with a COV of 2.4%, Figure 8.

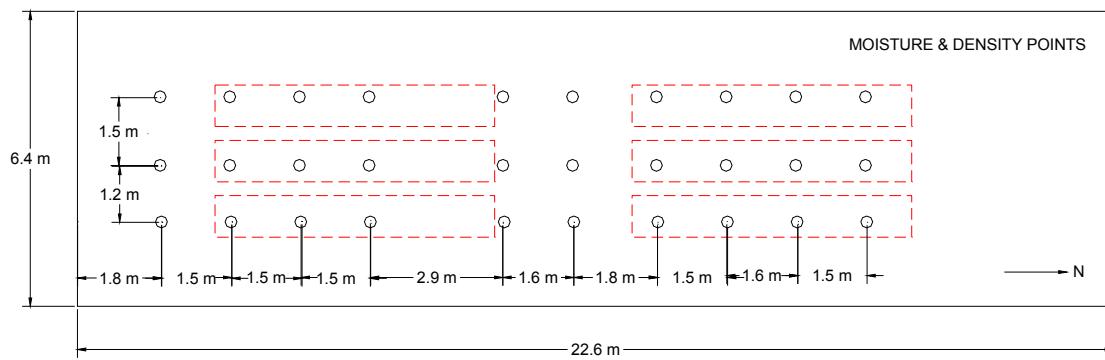


Figure 6. Location of moisture and density measurements on test section 704

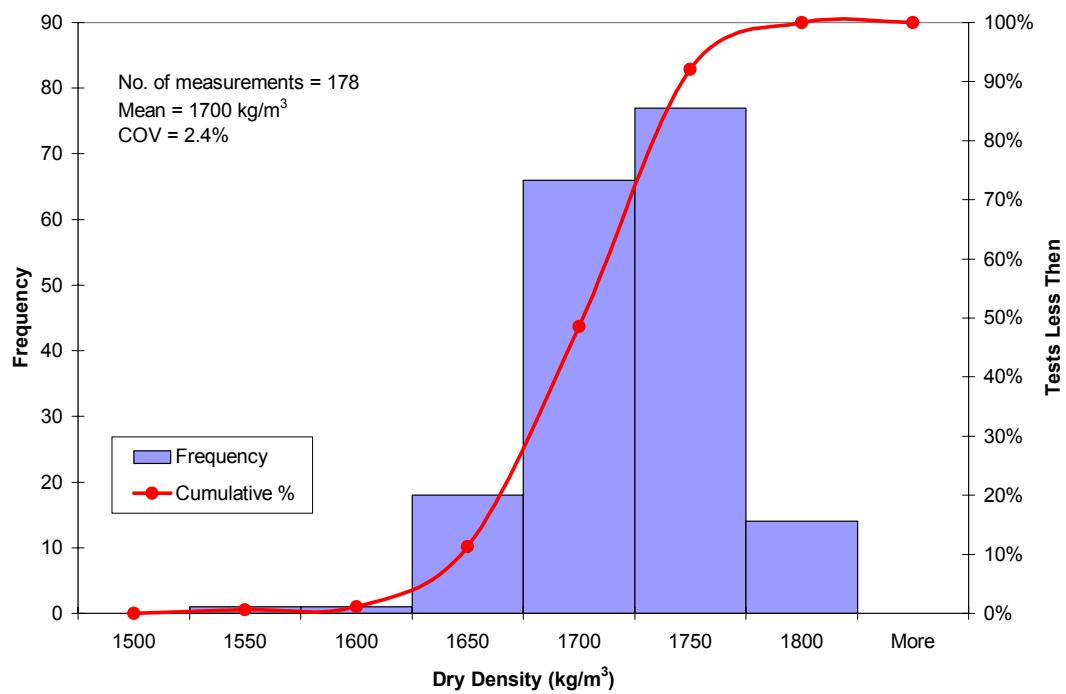


Figure 7. Constructed densities of test subgrade (704)

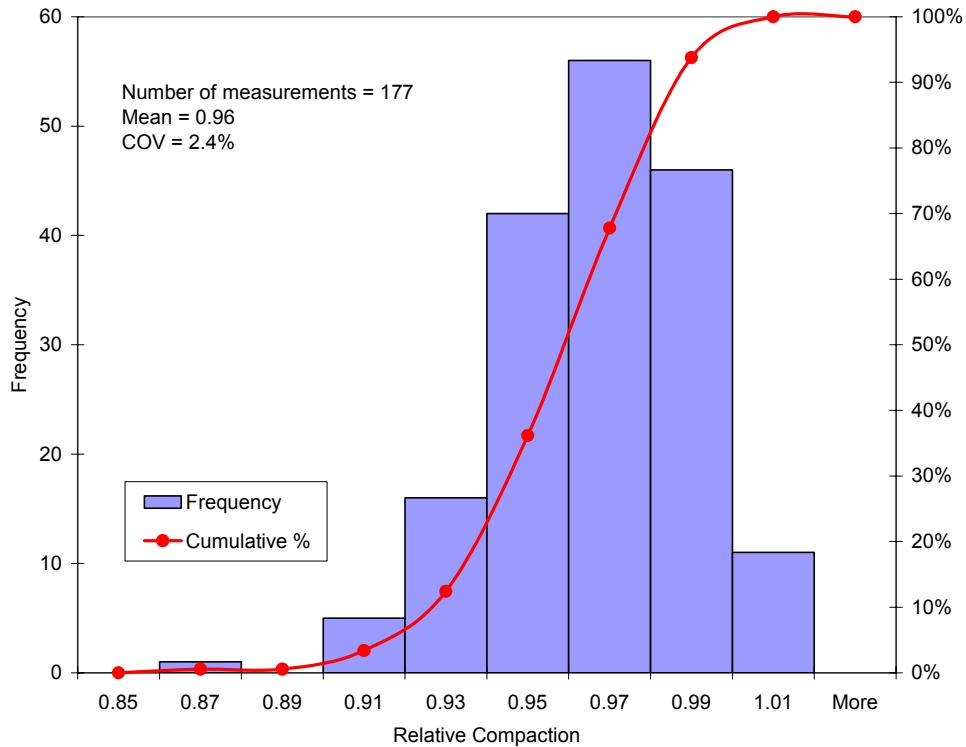


Figure 8. Relative compaction in test subgrade

The measured moisture contents in the subgrade during construction are presented in Appendix B-2. The mean moisture content of all the subgrade layers was 19.9 % with a coefficient of variation of 6.5%. Approximately 85% of the moisture content in the subgrade was within the specified $\pm 2\%$ of the target moisture content of 19.0 %, Figure 9. Based on a limited number of measurements, the density of the base course was 2169 kg/m³ with a moisture content of 2.7%.

Clegg hammer measurements were taken on the subgrade starting at a depth of 1.07-m to 0.61-m from the top of the finished subgrade surface. A total of 48 measurements were made at each level, Figure 9. The data from the Clegg hammer was converted to the California Bearing Ratio (CBR) using standard conversions provided by the manufacturer, Janoo et al., 2002. The CBR data are presented in Tables B-3 in Appendix B. The mean CBR of test subgrade was 1.6%.

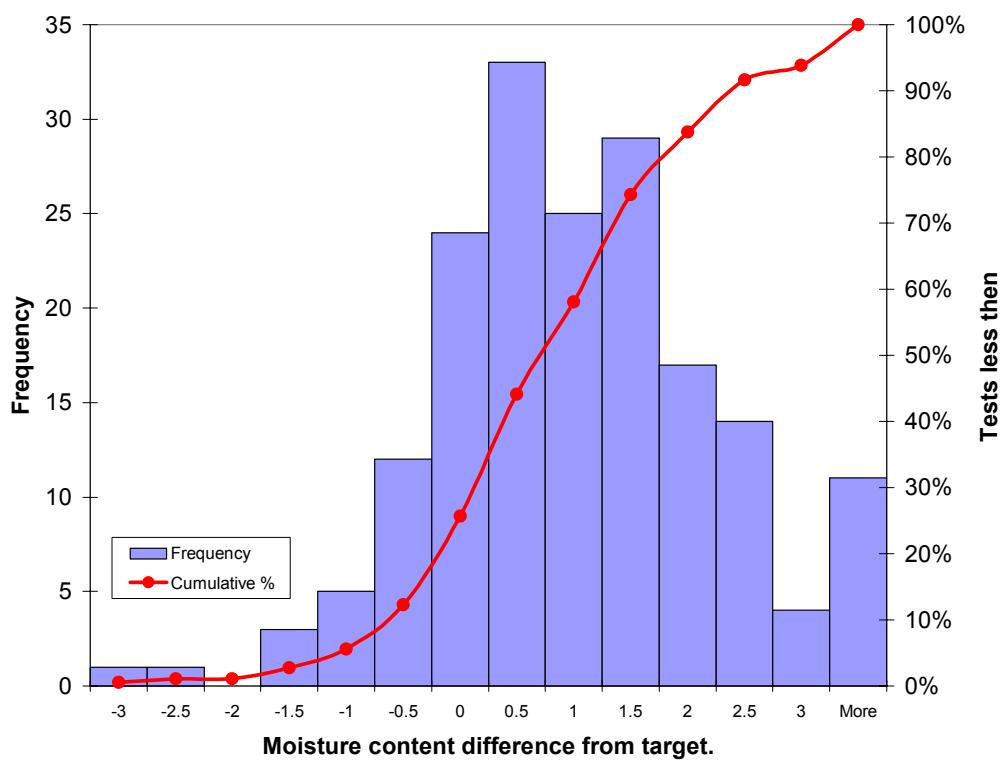


Figure 9. Distribution of the difference between actual and target moisture content in the subgrade

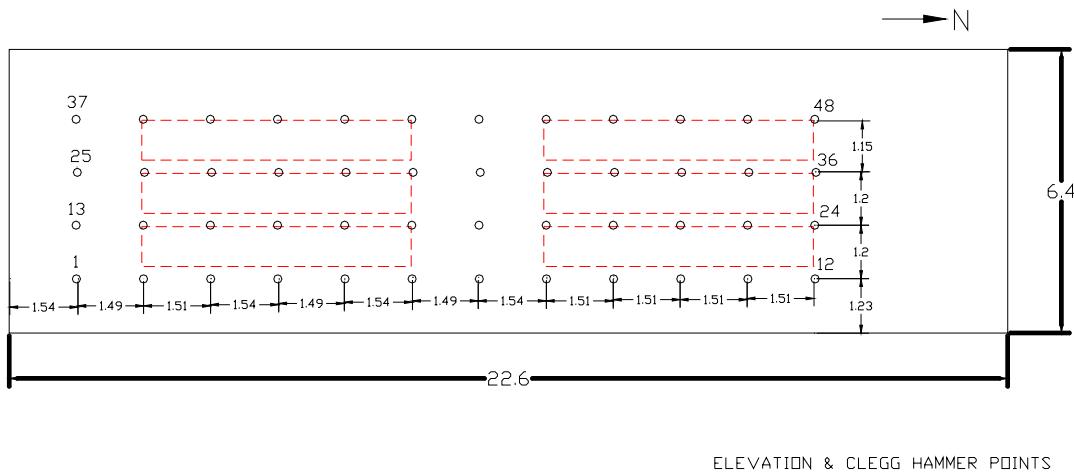


Figure 9. Location of Clegg hammer test points

Prior to construction of the test sections, FWD measurements were also taken on the concrete slab beneath the subgrade. The geophone sensors were located at 0, 203, 300, 600, 900, 1200, and 1800 mm from the center of the loading plate. The plate diameters used on the subgrade and on the AC layer were 457 and 300 mm, respectively. Four load levels were used and four repetitions were made at each load level. Additionally FWD tests were conducted after completion of the accelerated load tests. The results are not presented in this report. A future report is planned on the results from the FWD during the construction process.

INSTRUMENTATION

Instrumentation for measuring stress, strain, temperature, and moisture content were installed in the pavement structure during construction of the test section. Details of the instrumentation can be found in Janoo et al., 2002. The locations of the strain, stress, moisture and temperature sensors are presented in Appendix C. The locations of the gages in the test section were similar to that in TS703.

Strain measurements were made in the base and subgrade with the strain measurement unit (Emu), Janoo et al., 2002. The sensors were placed 150 mm center to center and was set up to measure the displacements in the longitudinal (x), transverse (y), and vertical (z) direction of loading to a depth of 1.2 m. The location of the sensors are presented in Table C-1, Appendix C.

Vertical stress measurements from the moving loaded wheel on the surface were made with the DYNATEST™ soil pressure cells near the top of the subgrade (~ 100 mm from the subgrade surface) in all test windows. In Window 1 an additional vertical stress measurement was taken at a depth of approximately 355 mm from the subgrade surface. In addition, longitudinal and transverse stress measurements were taken in window 1 at a depth of 76 mm from the subgrade surface. The locations of the various pressure cells are presented in Table C-2, Appendix C.

Soil moisture was measured with VITEL™ soil moisture probes at several depths, Table C-3, Appendix C. Through the use of appropriate calibration curves, the dielectric constant measurement was related to soil moisture. The VITEL™ moisture probes were calibrated for the test subgrade soil. Details on the calibration of the probes can be found in Janoo et al. (2002).

Subsurface temperatures were taken using thermocouple sensors. The thermocouples have an accuracy of $\pm 0.5^{\circ}\text{C}$. The subsurface temperature sensors were installed at two locations, Table C-4, Appendix C.

TESTING PROGRAM

The test windows were subjected to accelerated loading using the DYNATEST™ Heavy Vehicle Simulator (HVS). A description of the HVS can be found in Appendix D.

The following tests were conducted:

1. Prior to the accelerated load tests, FWD measurements on the surface of the AC layer using the same locations as during the construction phase.
2. Initial transverse profiles of each test window were measured using the 3-m-long laser Profilometer (Fig. 10). The laser located 45 cm from the ground surface measured the surface profile at approximately 9-mm intervals.
3. In addition to the Profilometer measurements, level surveys were made during every test to determine whether the reference points (i.e. where the feet of the Profilometer were located during the surface profile measurements) moved. The results from the level surveys indicated that the points were stationary throughout the test. Twenty-four transverse cross-section measurements spaced 0.3 m apart were made in each window (Fig. 11). Measurements taken at locations 1, 2, 23, and 24 (acceleration and deceleration zones) were excluded in the analysis and are not presented here. Surface profile measurements were made after 500, 1000, 2500, 5000, 10000, 25000, 50000, 100000, 200000, 500000, 100,000, N... load repetitions. The maximum rut depth was calculated as the difference of the surface profile after N passes to a baseline. The baseline was the measurement taken prior to loading of the test section. A typical surface rut measurement and the definition of maximum rut depth is shown in Figure 12. Testing was terminated when the average maximum surface rut depth of 12.5 mm was reached or exceeded.
4. Subsurface stresses, strains, and permanent displacements were also measured in the vertical and in two perpendicular horizontal directions after 0, 500, 1000, 2500, 5000, 10000, 25000, 50000, 100000, 200000, 500000, 1000000, N.... load repetitions. Dynamic stress and strain measurements in the test windows were taken when the wheel was in the positions shown in Figure 13. Measurements were taken at these three locations because one of the dual tires was either on top or very close to the sensors as the wheel traversed the test section. It was decided, at least for this window, to measure the stresses and strains at the three locations and determine if there were any significant differences. The locations in Figure 19 were identified as Position 1, Position 2 and

Position 3, respectively. Note that the strain measurements correspond to surface rut measurements points 7,8 and 9. The stress measurements correspond to points 15 to 19, Figure 11.

5. At the end of the dynamic stress-strain measurements, permanent deformation measurements were taken using the emu coils. A loose coil gage on the surface was used to measure the permanent deformation between the AC surface and the first coil in the base course.



Figure 10. The laser Profilometer

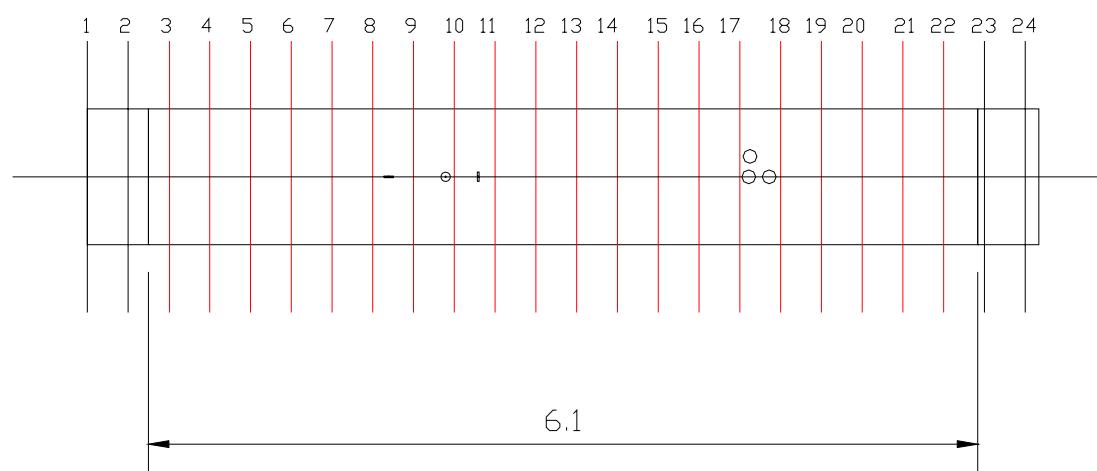


Figure 12. Locations for profile measurements in test section 702

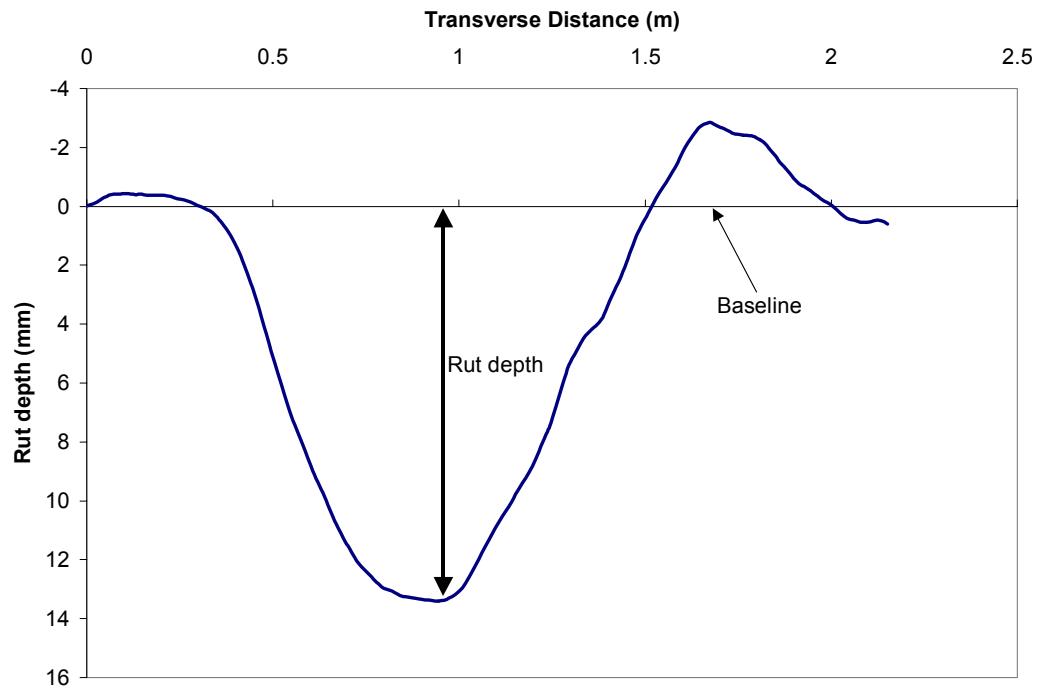


Figure 13. Definition of rut depth

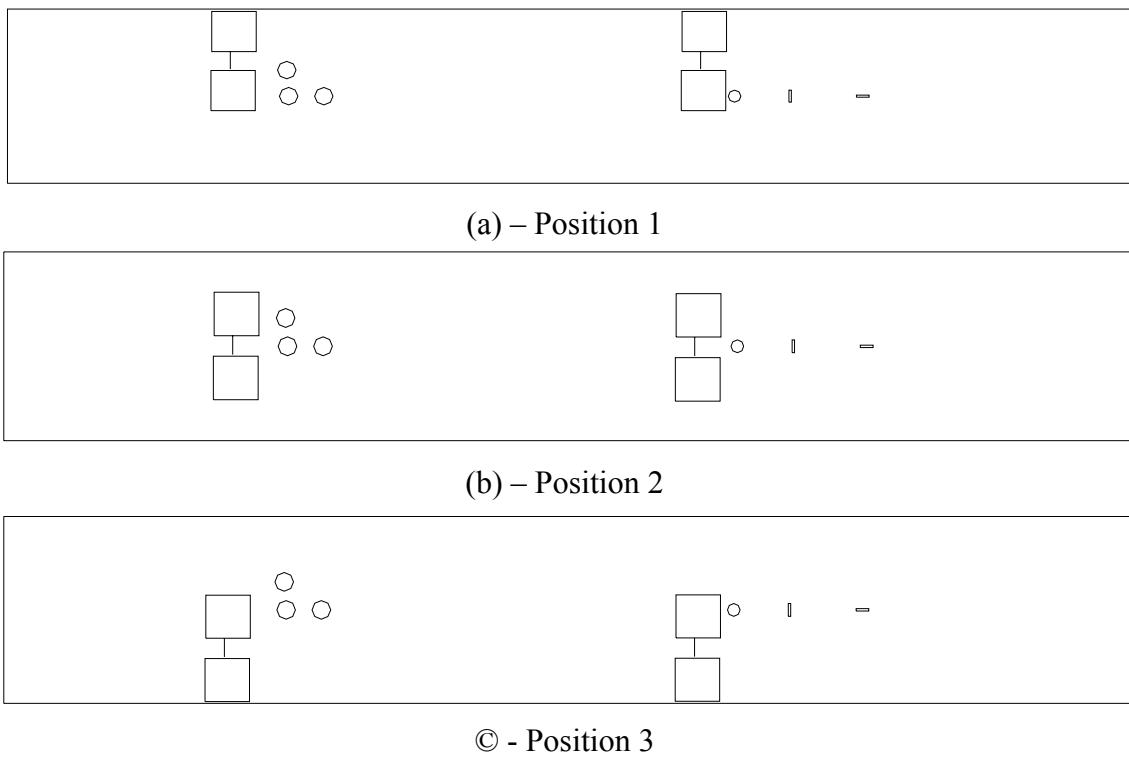


Figure 14. Location of test wheel during dynamic stress and strain measurements

SUMMARY OF RESULTS

HVS LOADING

Traffic loading was applied through the Heavy Vehicle Simulator (HVS). The tire was a standard dual truck tire, and the speed of load application was approximately 12 km/hr. The traffic was allowed to wander across the 1-m width. The mean applied loads are summarized in Table 3. The tire pressure was set to 690-kPa.

Table 3. Mean load and tire pressures on test windows

Test Window	Applied Load (kN)
704C1	54
704C2	45
704C3	49
704C4	45
704C5	40
704C6	40

MOISTURE & TEMPERATURE

The mean air and subsurface temperatures in the test sections during the time of HVS testing is presented in Table 4. The mean subsurface temperatures were taken from the two thermocouple strings located in the test section. The locations of the thermocouple strings are shown in Table C-4, Appendix C. No temperature measurements were taken in the asphalt layer.

Table 5. Mean air and subsurface temperatures.

WINDOW	TEMPERATURE (°C)					
	SUBSURFACE				AIR	
	NORTH	COV	SOUTH	COV		COV
704C1	15.6	4.9	15.4	3.9	13.5	14.3
704C2	22.1	4.0	21.8	3.5	23.9	5.7
704C3	20.7	3.7	20.7	2.6	22.2	4.3
704C4	17.8	5.4	17.8	7.7	25.0	5.5
704C5	21.4	5.4	21.9	5.6	21.5	11.0
704C6	20.6	3.6	21.1	4.3	21.6	7.7

The mean subgrade moisture contents in the test windows during the test period are presented in Table 6. The volumetric moisture contents measured with the VITEL hydra probes were corrected using the calibration curve developed for the A-4 soil.

Details of the calibration can be found in Janoo, et al, 2002. The corrected volumetric moisture contents were then converted to the gravimetric moisture content using established weight-volume relationships. The average specific gravity of the soil was 2.73.

Table 6. Mean moisture contents in the subgrade during HVS testing.

WINDOW	Mean Subgrade Moisture Content (%)	COV (%)
704C1	18.7	2.2
704C2	19.0	1.1
704C3	18.9	1.5
704C4	18.7	1.9
704C5	19.0	1.1
704C6	18.9	1.5

OBSERVATIONS DURING HVS TESTING

The sequence of HVS testing in test section 704 is shown in Table 7. The number of loading days for each window at the given load is also shown in the table. The applied loads in each test window were tabulated in Table 3.

With the exception of 704C1, all sections failed from rutting. Window 704C1 was tested at a load of 54-kN. Cracks were noticed on the asphalt surface after approximately 10,000 load repetitions. The crack was confined to the wearing surface and was in the vicinity of rut measurement locations 16 and 17, (see Figure 12). At the end of 10,900 load passes, we noticed that the crack had widened and it appeared to cause some shoving of the asphalt layer in the direction of loading. Since the widening of the crack was in the vicinity of the emu measurement system, Figure 12, the cracked wearing course area was removed and repaved. We did not notice any cracking of asphalt base layer and decided that the cracking was only in the wearing surface. We also decided that that the crack did not adversely effect the stress and strain measurements in the base course and therefore continued with the test. To reduce any additional shoving of the asphalt layer, we changed the direction of loading from north to south to south to north. Also, due to the cracking on 704C1, the applied loads in the other windows were reduced to below 54-kN.

Table 7. Sequence of HVS tests on test windows

Window	Start	End	No. of test days
704C1	11/23/1998	12/4/1998	11
704C4	12/7/1998	12/14/1998	7
704C6	4/21/1999	5/12/1999	21
704C3	5/17/1999	5/24/1999	7
704C2	6/7/1999	7/6/1999	29
704C5	7/13/1999	10/19/1999	98

SURFACE RUT MEASUREMENTS

Transverse surface profile measurements were taken periodically during testing. The maximum rut depths at each of these locations are presented in Appendix E. The rut depth was calculated as the difference between the profile measurements taken at the pass level and the profile measurements taken prior to testing. Profile measurements were taken every 305-mm starting from one end of the test window for a total of 24 locations. The measurements in the acceleration and deceleration zones (Positions 1,2, 23 and 24) are not reported. The coil gages for measuring dynamic and permanent deformation are in the vicinity of positions 7, 8 and 9. An example of the surface profile data is presented in Figure 15. Positive values in Figure 15 indicate compression.

The maximum rut depths from transverse profile measurements were used to develop the longitudinal profile. The longitudinal rut depth in various test windows as a function of load repetitions are presented in Figures 16 to 18. As seen in the figures, rutting as fairly uniform throughout the windows, with the exception of 704C4. In 704C4, failure was fairly rapid ($N = 5000$ passes) and more rutting was seen on the north side of the window. In 704C1, the rut measurements in the cracked area are not shown in Figure 16, as this was more of an anomaly.

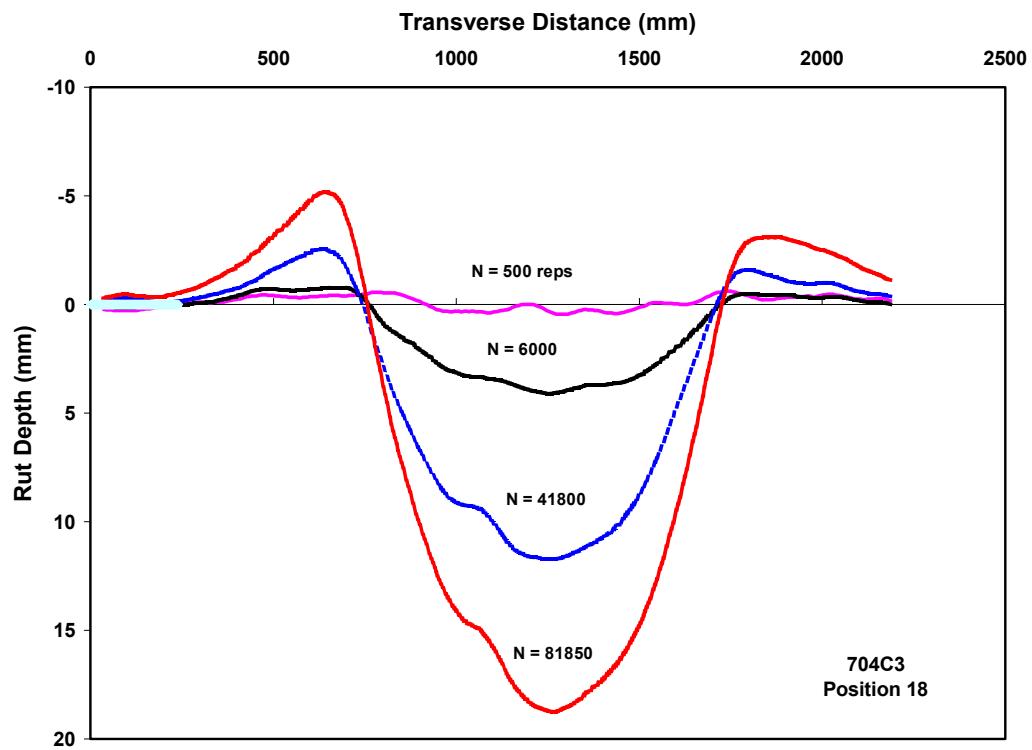


Figure 15. Typical transverse rut measurements in test section.

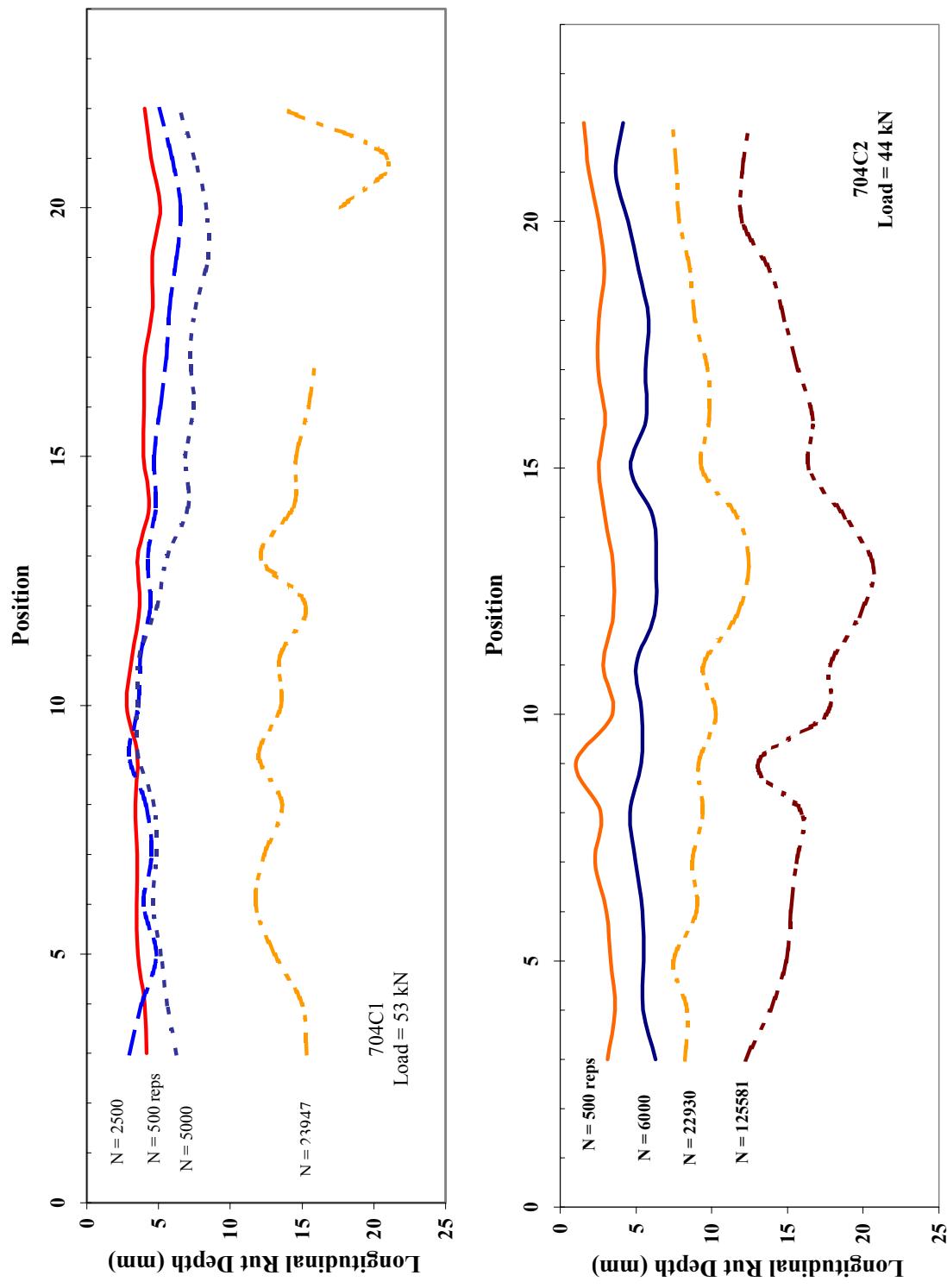


Figure 16. Longitudinal rut formation in TS704C1 and TS704C2

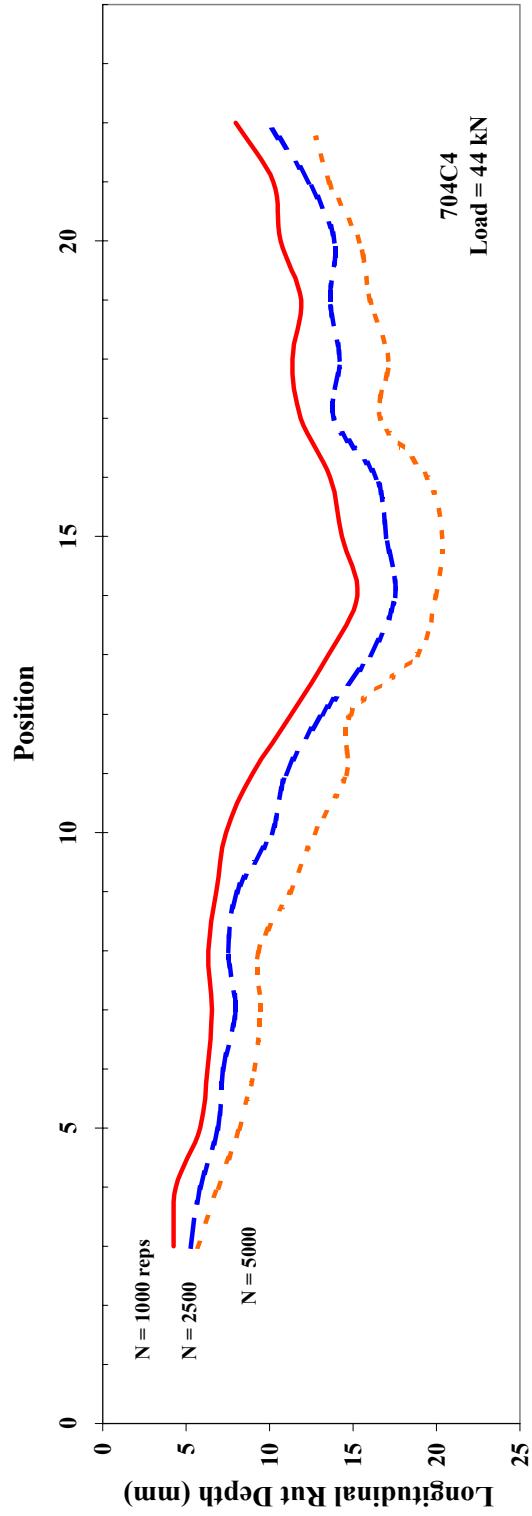
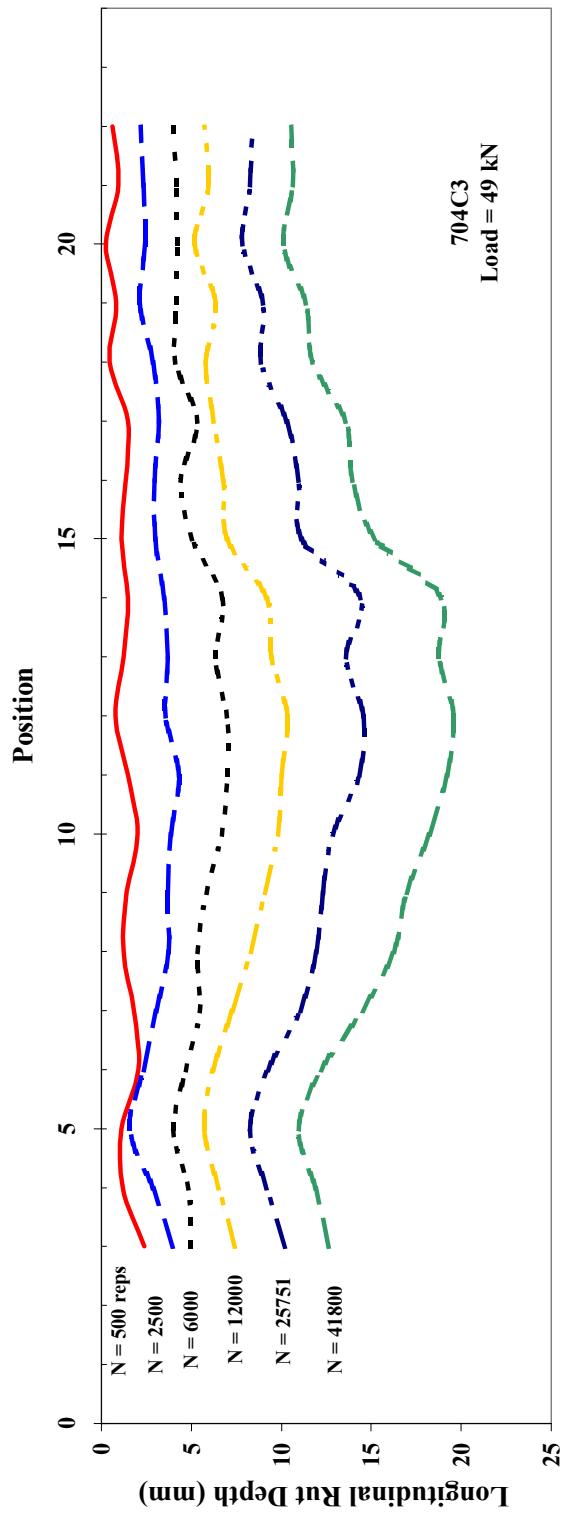


Figure 17. Longitudinal rut formation in TS704C3 and TS704C4

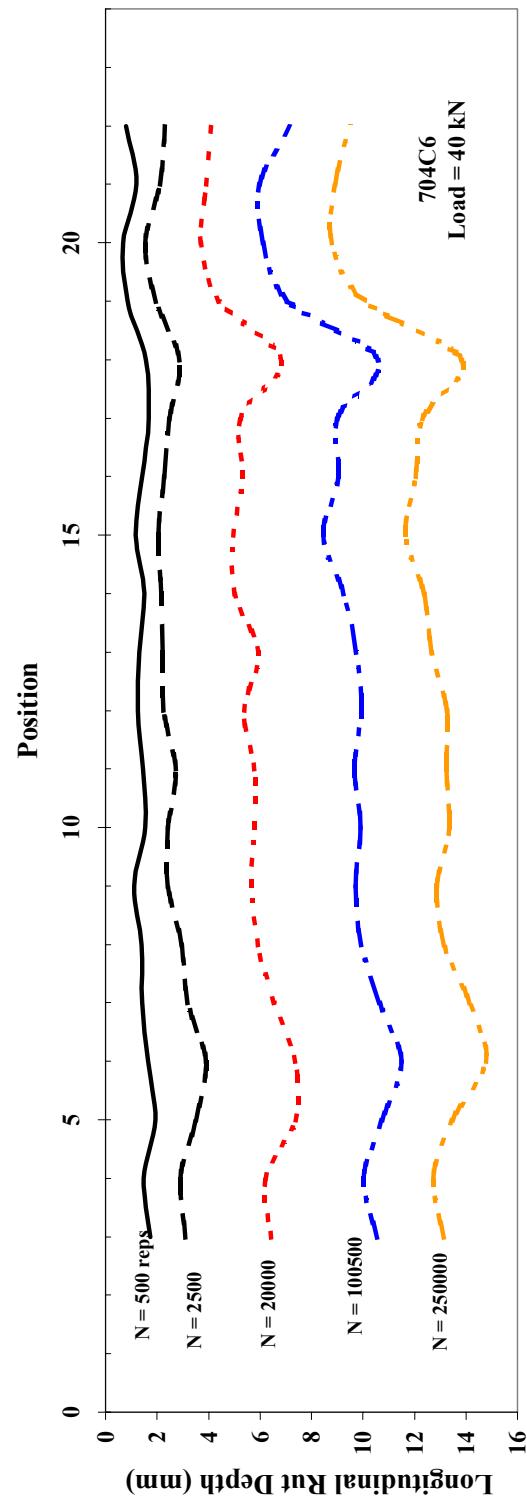
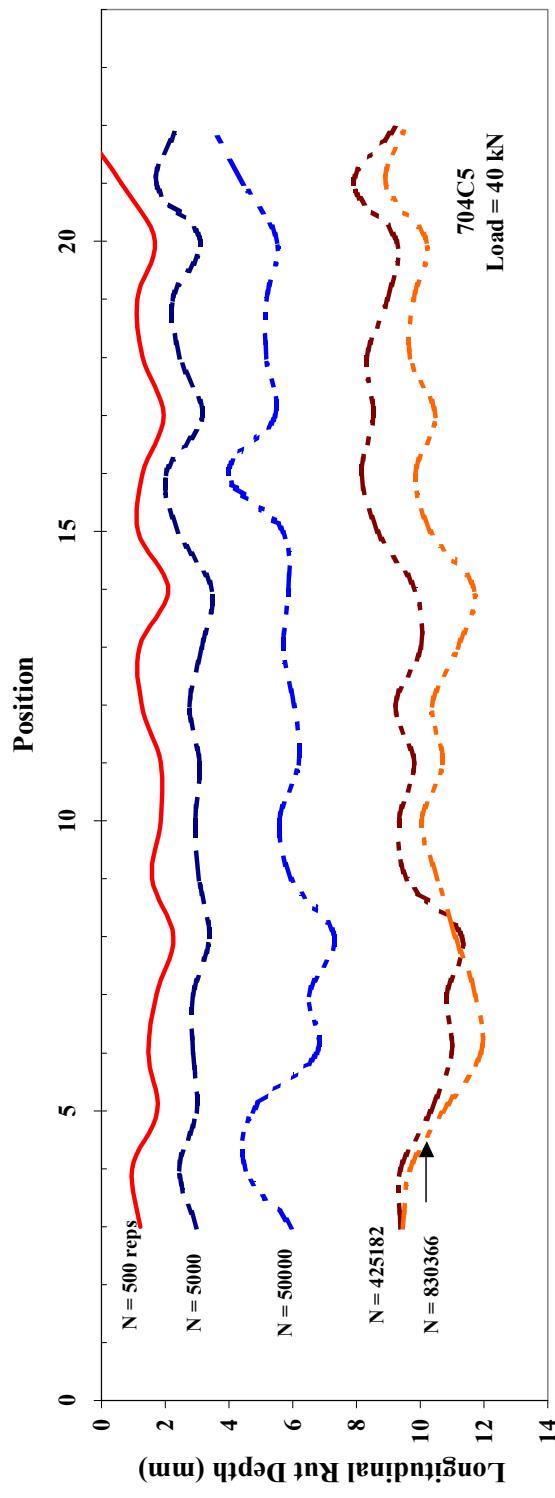


Figure 18. Longitudinal rut formation in TS704C5 and TS704C6

The progressions of rut depths as a function of load repetitions in the various windows are presented in Figure 19. In general, as the applied load increased so did the rate of rut depth. There is a difference in the rate of rut formation between 704C5 and 704C6, although both windows were loaded with 40-kN. A comparison of the construction densities and moisture contents under these windows did not show any significant difference (densities in 704C5 and 704C6 were 1713 and 1699 kg/m³ respectively; gravimetric moisture contents were 20.1 and 19.7% respectively). A check on the average moisture content of the subgrade during the HVS tests indicated that there was no significant difference, (see Table 6). The only difference was when the tests were conducted, 704C5 was tested in July 1999 and 704C6 in April, 1999, (see Table 7).

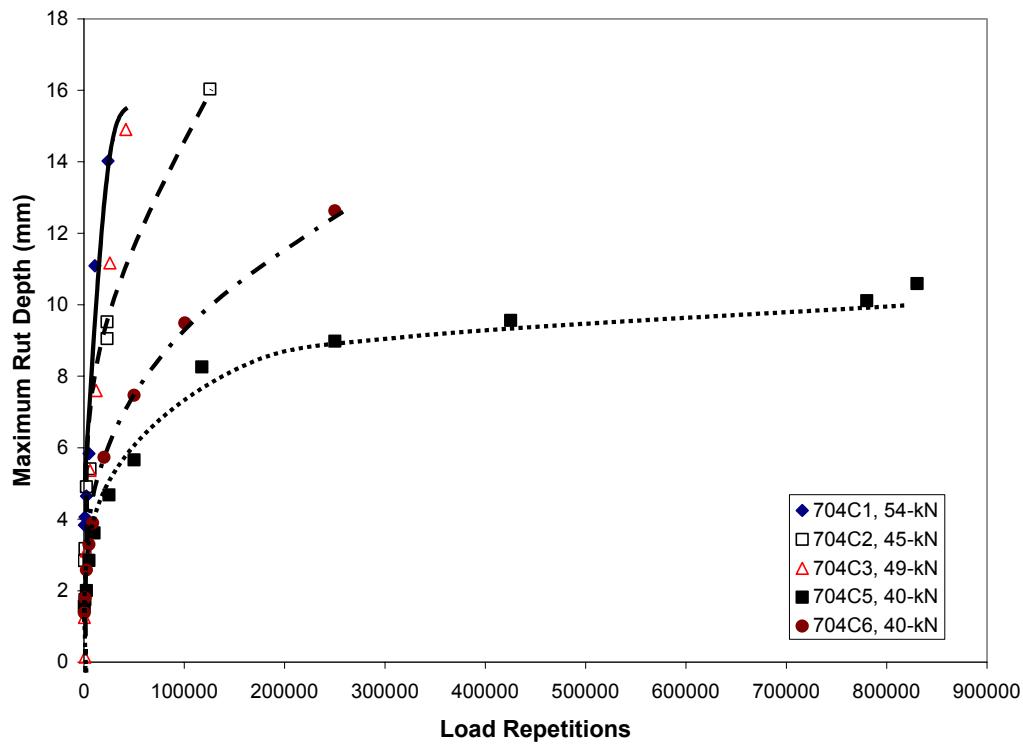


Figure 19. Rut depth progression as function of load repetitions.

The data from the surface profile measurements were also used to estimate the number of load repetitions required to reach failure. Failure was defined when the average rut depth reached a 12.5-mm. The estimated load repetitions were then used with the appropriate power equations to estimate the failure stresses and strains, Table 8.

Table 8. Load Repetitions to reach failure of 12.5-mm

Test Window	Applied Load (kN)	Passes	ESAL
704C1	54	15915	52862
704C2	45	66171	105993
704C3	49	36595	82408
704C4	45	1160	1858
704C5	40	1494965	1494965
704C6	40	244113	244113

Strain Measurements

Permanent deformations & strains

Permanent deformation and strain measurements were collected in the base and subgrade. The permanent deformations and strains at various depths in the base and subgrade are presented in Tables F-1 to F-12, Appendix F. Several notes should be made about the measurements.

During the test, a surface coil and the coil under the AC layer are used to determine the deformation of the asphalt layer with increasing load application. These deformations are presented in Appendix F under the heading of surface. In 704C1, 704C3 and 704C5, the coil under the asphalt layer failed after the placement of the asphalt layer. Surface measurements were taken, between the coils at the surface and at the bottom of the base layer (#3, Figure 20). This was done because the coil under the asphalt layer failed during the construction phase, Figure 20. Assuming that there was minimal deformation of the asphalt layer, the surface deformations measured were used to represent the deformation of the base course.

In 704C2 surface measurements collected at 0 and 500 passes were in error. The problem with the surface deformation measurement system was fixed by the time measurements were taken at 1000 load repetitions. We estimated the deformations at 0 and 500 by plotting the remaining data and applying a power curve to it. The estimated values are shown in *italics* in Table F-2, Appendix F.

Test window 704C4 failed very quickly and the rutting along the test window was non-uniform. The results are shown in this report and should be used with care. In 704C6, due to an oversight, no surface deformation measurements were made.

The deformations measured in the base and subgrade, were compared with the surface deformation obtained from the laser profilometer. Generally, the agreement between the two measurements was good as shown by the data from 704C2, Figure 21. We found that in most cases, the difference between the two measurements was ± 1.5 mm. The highest difference seen in this test section was 3.4 mm.

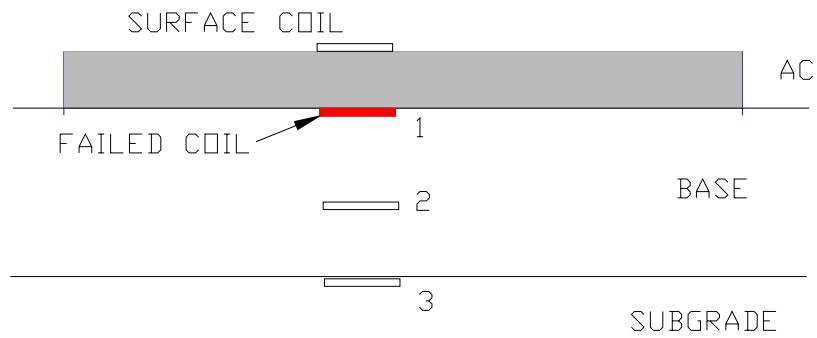


Figure 20. Schematic of vertical base deformation measurements using surface coil

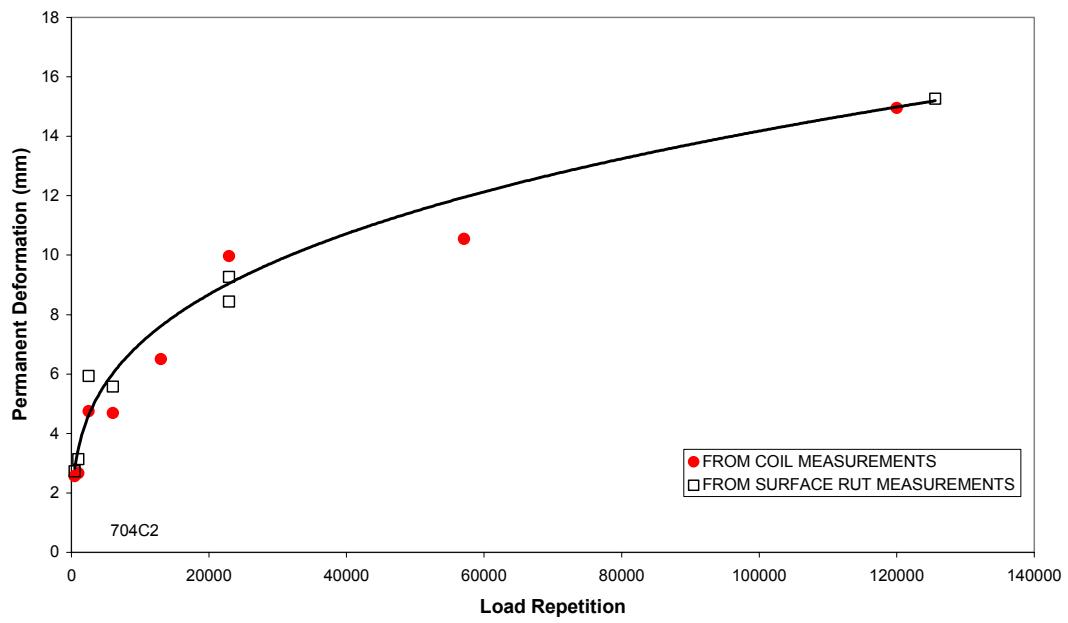


Figure 21. Comparison coil and surface profilometer measurements of permanent deformation in 704C2

Summary plots of the vertical permanent deformations of the subgrade as a function of load repetitions are shown in Figures 22 and 23. The deformation of the total subgrade as a function of load repetition is shown in Figure 22. The deformations were compressive and from Figure 23, two trends are seen. There appears to be no correlation between applied load and permanent deformation. In Figure 23, the permanent deformation measured in the top subgrade layer as a function of load repetition is shown. There is a trend between applied load and permanent deformation. However, there are still 2 trends for the 40-kN load.

A summary of the permanent deformation of the base course as a function of load repetition is shown in Figure 24. Here the effect of load on the permanent deformation is very clear. The results also indicate that in most cases, the amount of deformation in the base course is greater than the deformation of the total subgrade. The ratios of the deformation of the base course and subgrade to the total deformation are shown in Table 9.

Table 9. Ratio of deformation in base and subgrade

TS	704C1	704C2	704C3	704C4	704C5	704C6
BASE	0.66	0.60	3.45	0.49	0.67	0.46
SUBGRADE	0.34	0.40	0.22	0.51	0.33	0.54

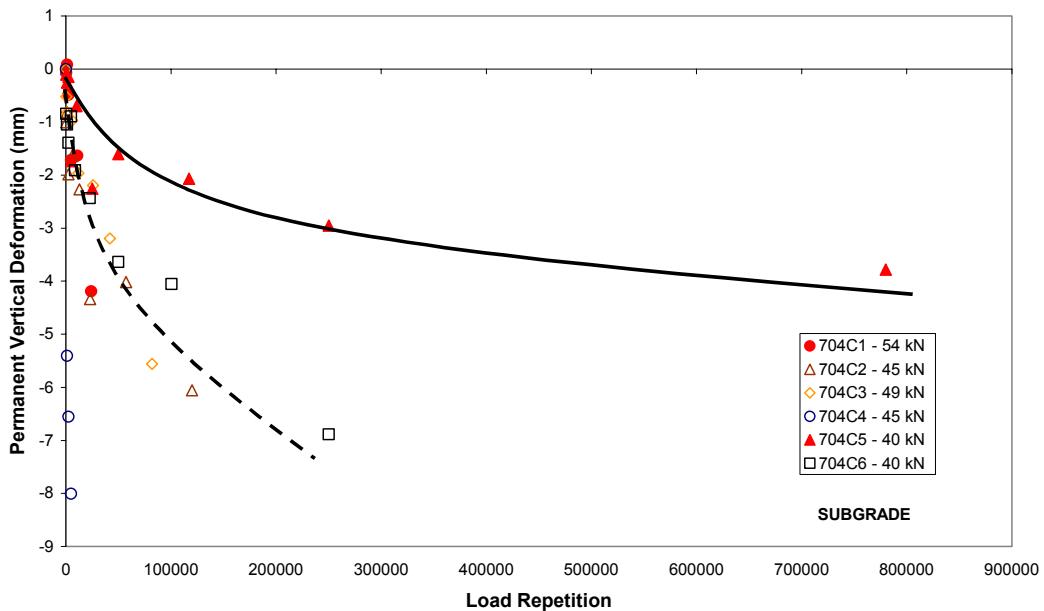


Figure 22. Permanent deformations of total subgrade

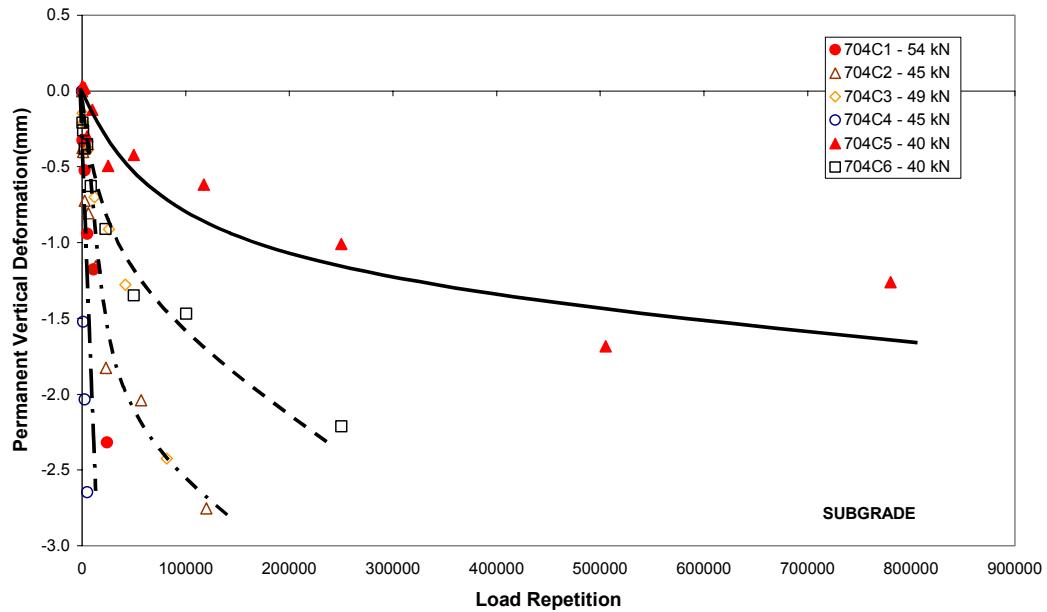


Figure 23. Permanent deformations of top of subgrade layer

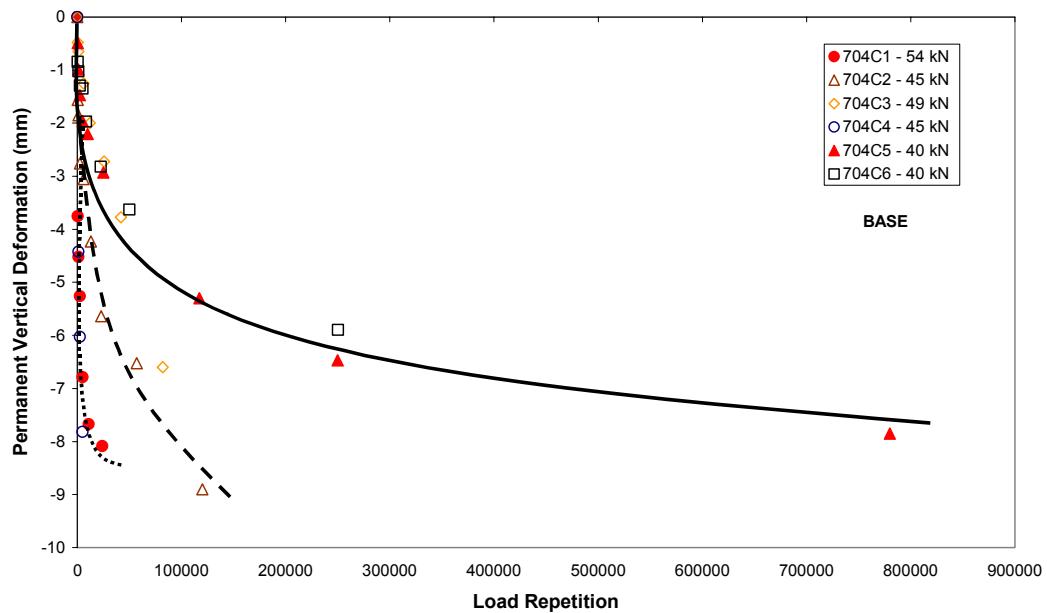


Figure 24. Permanent deformations of base layer

The permanent deformations in the longitudinal and transverse directions are presented in Tables F-1 to F-6, Appendix F. A summary of the longitudinal and

transverse permanent deformations measured in the top subgrade layer, are presented in Figures 25 and 26. In the longitudinal direction, the deformations were mostly compressive, with the exception of the 704C1 and 704C4. In both cases, failure occurred in a very short time. In the transverse direction, the deformations were mostly expansive. The exception was with the 40-kN load tests, where the deformations were compressive.

The permanent deformations were converted into permanent strains and are presented in Tables F-7 to F-12. The permanent vertical strains in the top of the subgrade as a function of load repetition is presented in Figures 27. Power curves were fitted to the data and the coefficients are presented in Table 10. Some of the data could be combined and 4 power curves could be used to describe the permanent strains in the top subgrade layer in this test section, Figure 27.

Table 10. Power curve coefficients for the vertical permanent strains

Test Window	Load (kN)	A	n	R ²
704C1	54	0.0059	0.5254	0.96
704C2	45	0.0236	0.3816	0.98
704C3	49	0.0027	0.5260	0.98
704C4	45	0.0974	0.3446	0.99
704C5	40	0.0004	0.6154	0.86
704C6	40	0.0108	0.3929	0.98

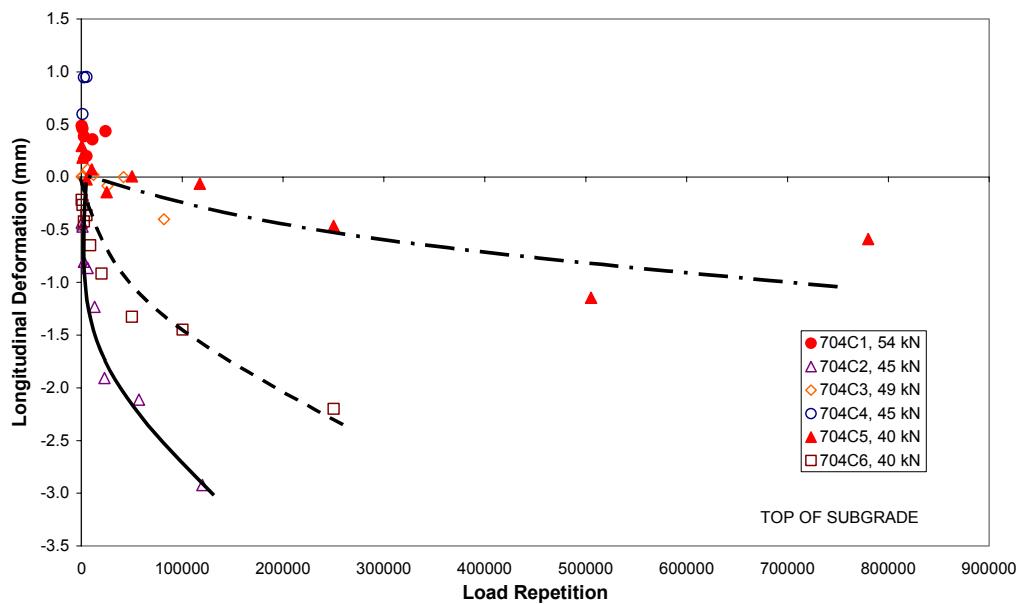


Figure 25. Permanent longitudinal deformation in top subgrade layer

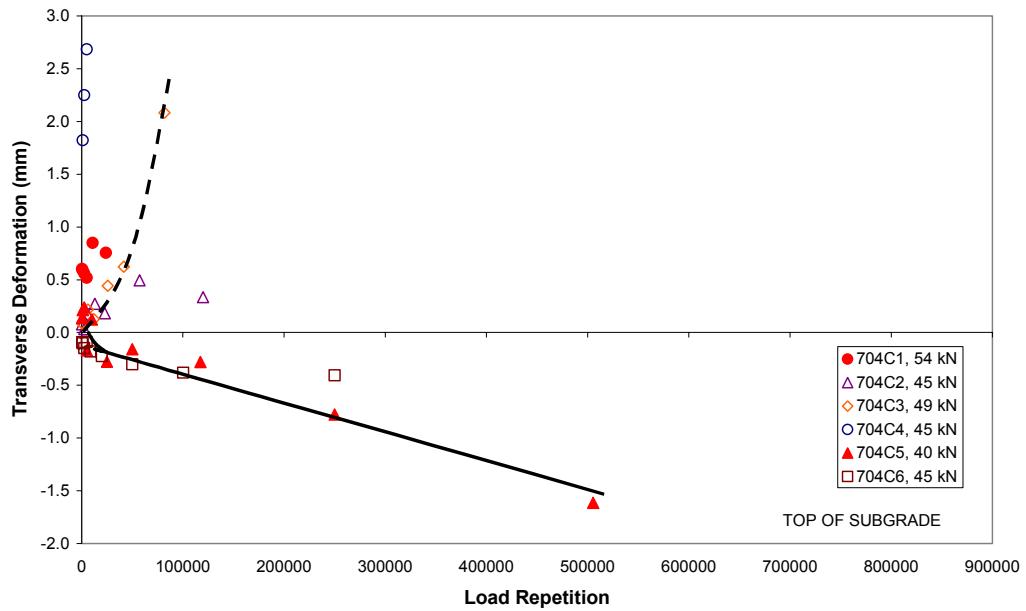


Figure 26. Permanent transverse deformation in top subgrade layer

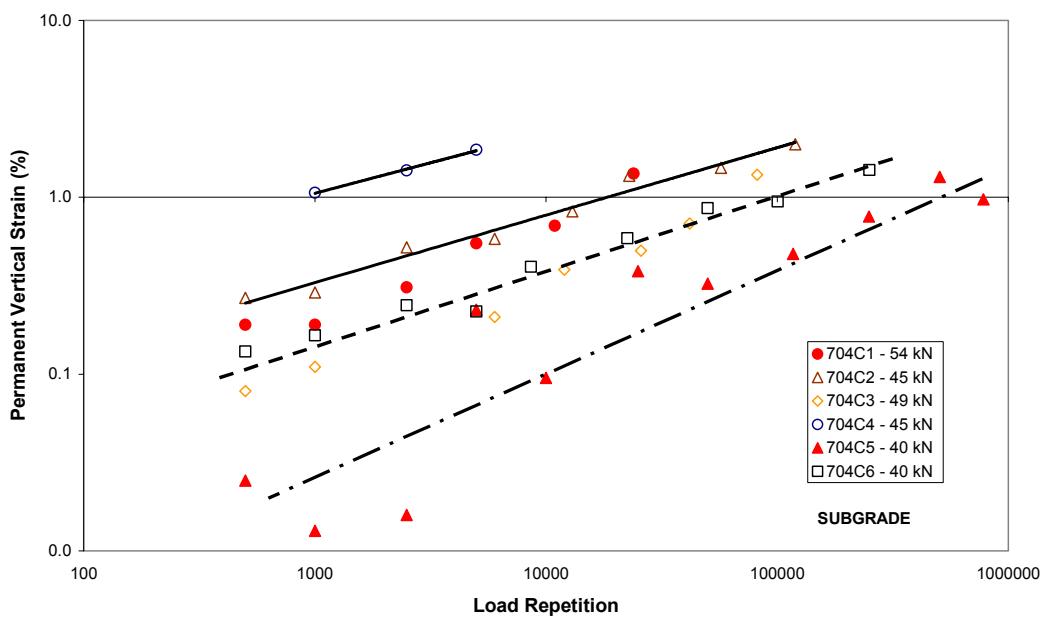


Figure 27. Permanent strain in top subgrade layer

Dynamic displacements & Strains

As with previous test sections, triaxial dynamic displacements were measured with the emu coil gages in the base and subgrade. The vertical displacements were compressive, whereas the peak longitudinal and transverse displacements were tensile. The peak vertical displacements are presented in Tables G-1 to G-30, in Appendix G. The peak displacements were used to calculate the peak strains and are presented in Tables G-31 to G-60, Appendix G. For the longitudinal measurements, 3 displacement (strain) measurements are reported, Figure 28. For the vertical and transverse displacements (strains) only the peak values are reported.

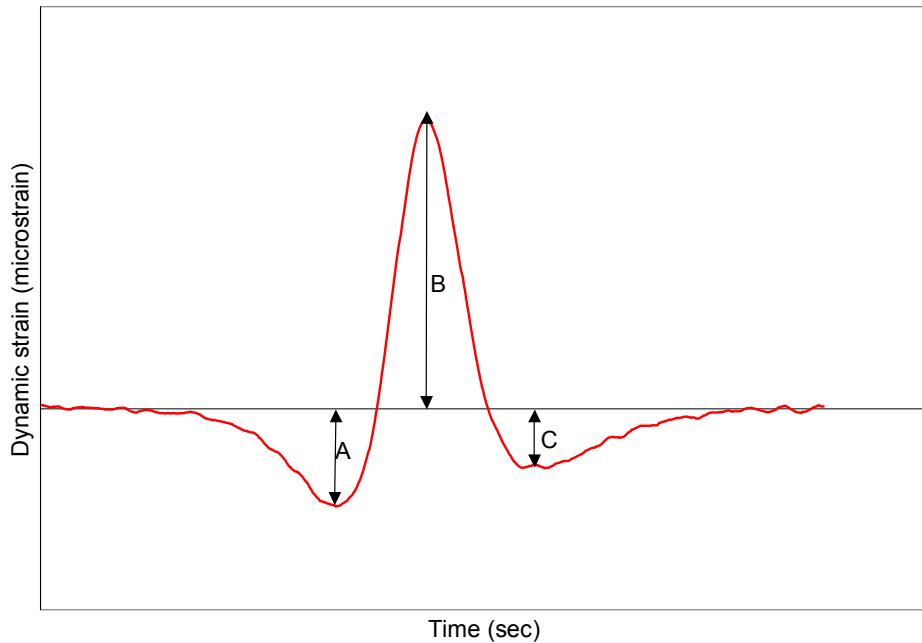


Figure 28. Location of peak longitudinal displacement (strain) measurements

The peak vertical displacements (strains) were compressive. The change in the vertical displacement as a function of load repetitions at the top of the subgrade is shown in Figure 29. There was no correlation between the peak dynamic vertical displacements and applied load. There were significant differences in the displacements in 704C5 and 704C6, even though the applied load in both windows was 40-kN. The difference may be due to the larger displacements of the base course in 704C6, Figure 30. However, the trends are the same. It was also found that the displacement pattern for 704C1, 704C2 and 704C3 were similar, Figure 30. We found that the displacements in 704C1, 704C2, 704C3 and 704C6 were similar to one another for load repetitions under 30000.

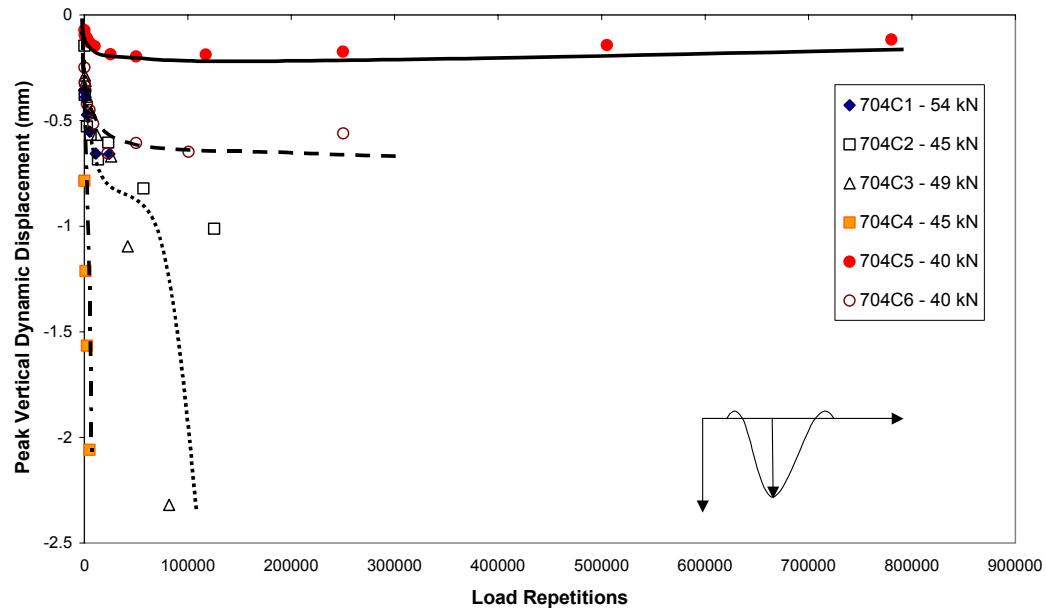


Figure 29. Peak dynamic vertical displacements at top of subgrade as function of load repetitions

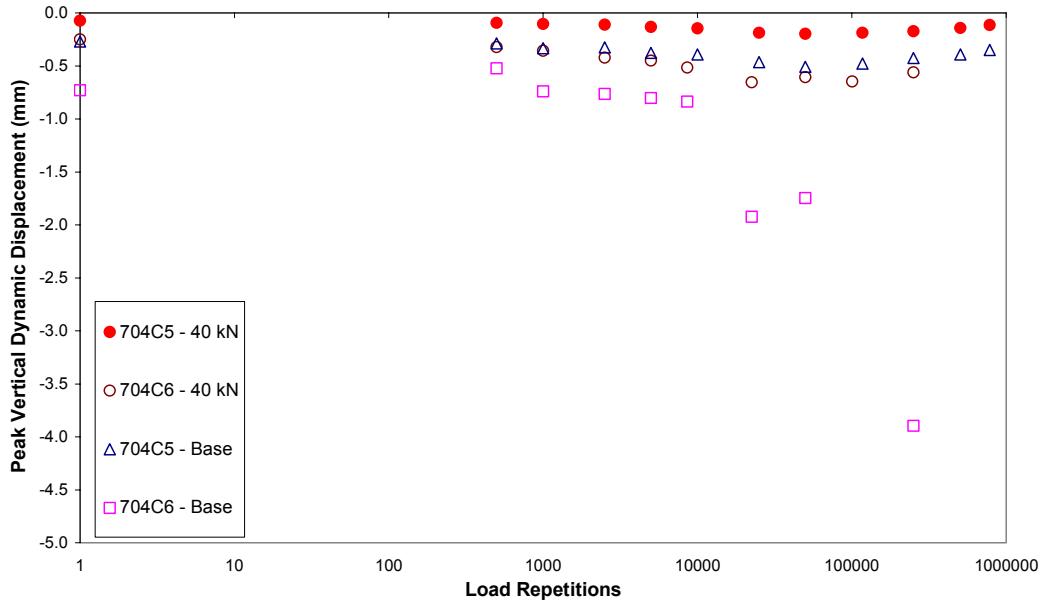


Figure 30. Peak dynamic vertical displacements at top of subgrade as function of load repetitions

The change in the vertical displacement of the total subgrade as a function of load repetition is presented in Figure 31. Again, there was no clear correlation between the peak displacements of the subgrade layer and applied load. A similar pattern to the top of

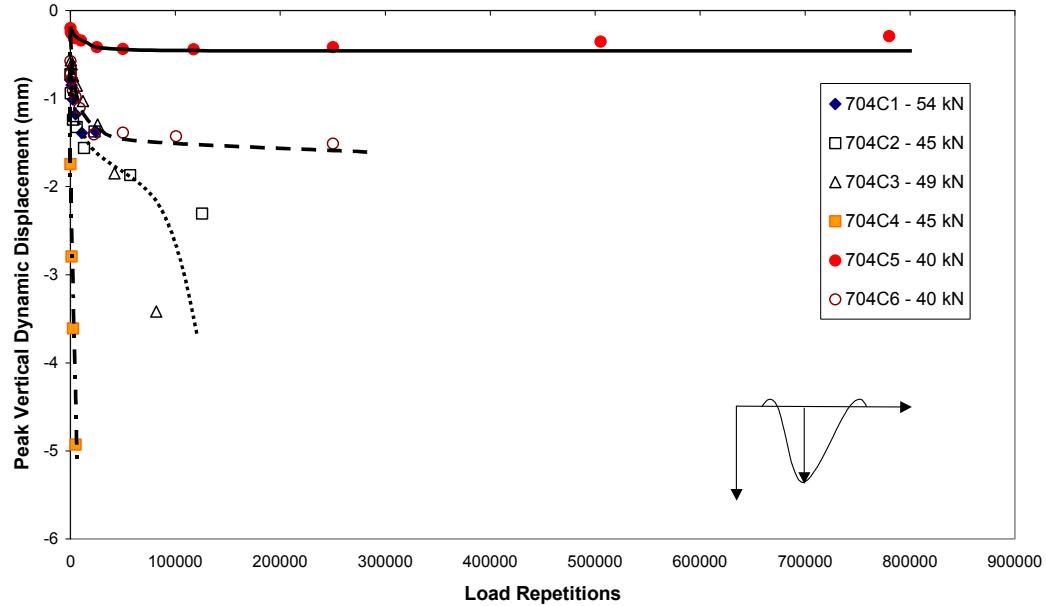


Figure 31. Peak dynamic vertical displacements of subgrade as function of load repetitions

the top of the subgrade was seen. This suggests that the differences in the dynamic displacements are due to the displacements of the base course.

The progression of the peak longitudinal displacements as a function of load repetitions is presented in Figure 32. Generally they were in extension and were small. The maximum displacement ranged between 0.7 and 1-mm. The transverse displacements were also small. They were also in extension, Figure 33.

The change in vertical strain as a function of load repetition is presented in Figure 34. Power curves were fitted to the data. Examples of the power curves are shown in Figure 34. The coefficients for the power curves are presented in Table 11.

Table 11. Power curve coefficients for the vertical strains

Test Window	Load (kN)	A	n	R ²
704C1	54	1796	0.0643	0.62
704C2	45	1495	0.1080	0.94
704C3	49	745	0.1738	0.64
704C4	45	5192	0.0980	0.86
704C5	40	568	0.0637	0.58

704C6	40	1451	0.0857	0.86
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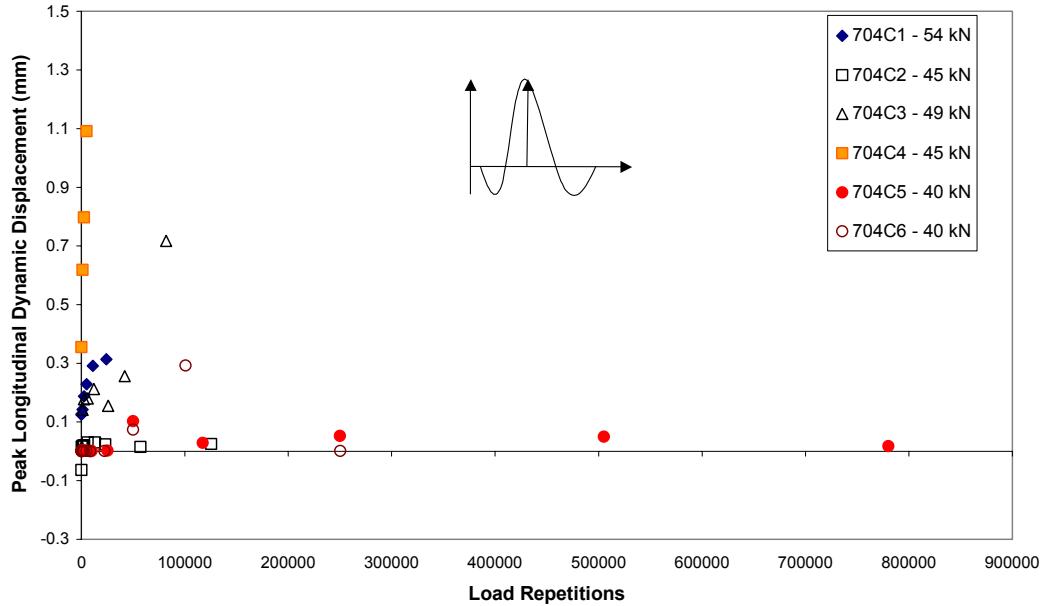


Figure 32. Peak dynamic longitudinal displacements of subgrade as function of load repetitions

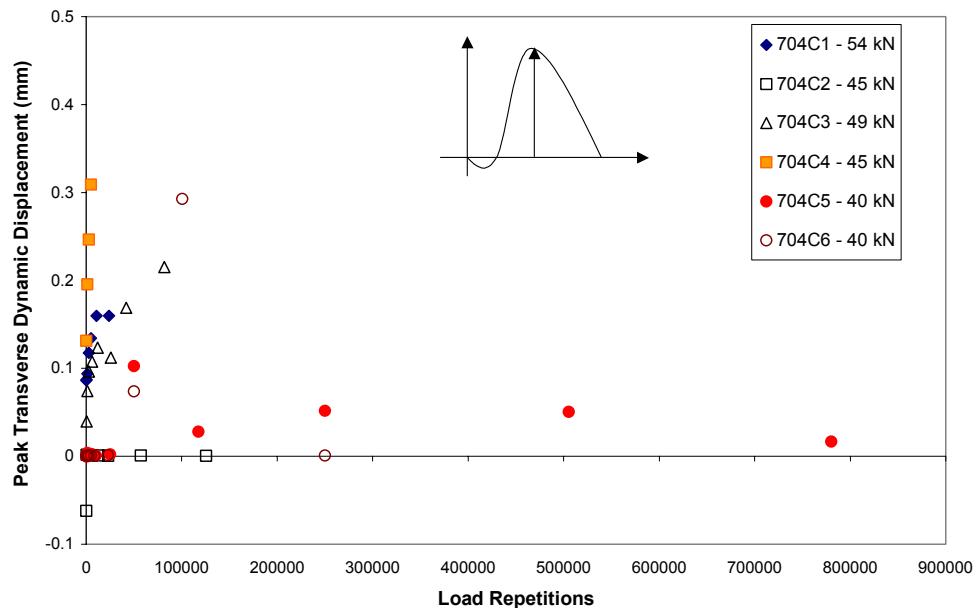


Figure 33. Peak dynamic transverse displacements of subgrade as function of load repetitions

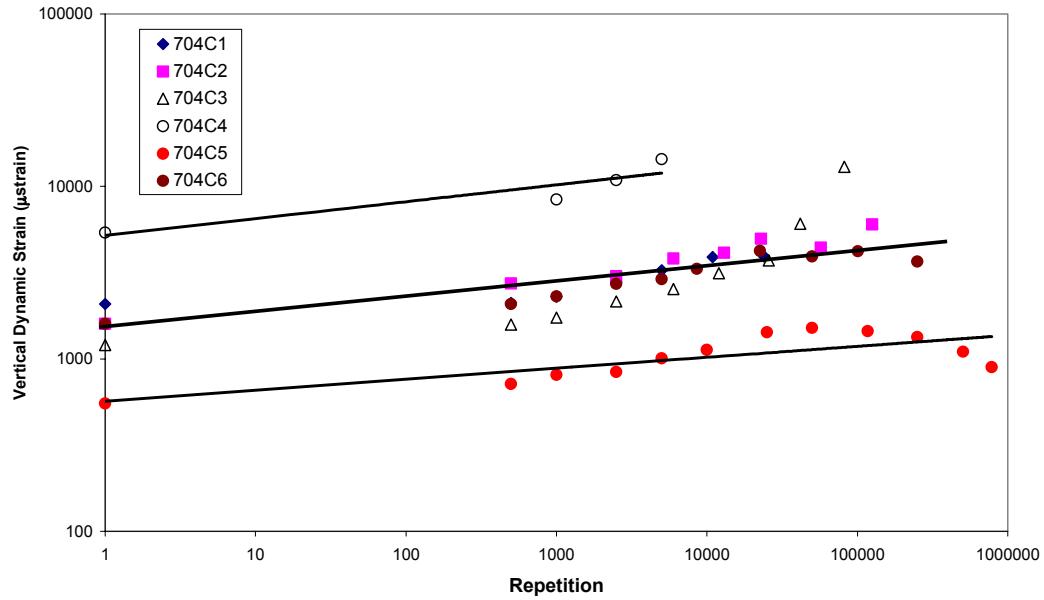


Figure 34. Peak dynamic vertical strains of subgrade as function of load repetitions

STRESS MEASUREMENTS

Vertical stress measurements were made in the subgrade in all test windows at an approximate depth of 380-mm from the pavement surface or at approximately 76-mm from the surface of the subgrade. The actual locations of the stress gages are shown in Table C-2, Appendix C. The peak stresses as a function of load repetitions are presented in Appendix H.

In 704C1, an additional vertical stress measurement was made at 254 mm into the subgrade. Also, longitudinal and transverse stress measurements were made at 76 mm into the subgrade in 704C1. A typical triaxial stress response in the subgrade in window 704C1 is shown in Figure 35. All stress measurements were compressive and the peak longitudinal stress was approximately 20% of the peak vertical stress. Similarly, the peak transverse stress was about 15% of the peak vertical stress. A typical stress response as a function of depth is presented in Figure 36. The subgrade stress measured at a depth of 660 mm from the AC surface was approximately 22% of the peak stress measured at a depth of 406 mm from the surface.

The change in the vertical stress measurements as a function of load repetition is shown in Figure 37. In this case, the peak vertical stresses remained nearly constant as a function of load and load repetition. A similar response was noticed with the vertical stress at the depth of 660-mm from the AC surface into the subgrade. Also, a similar response was seen with the longitudinal and transverse stresses as a function of load repetition in 704C1.

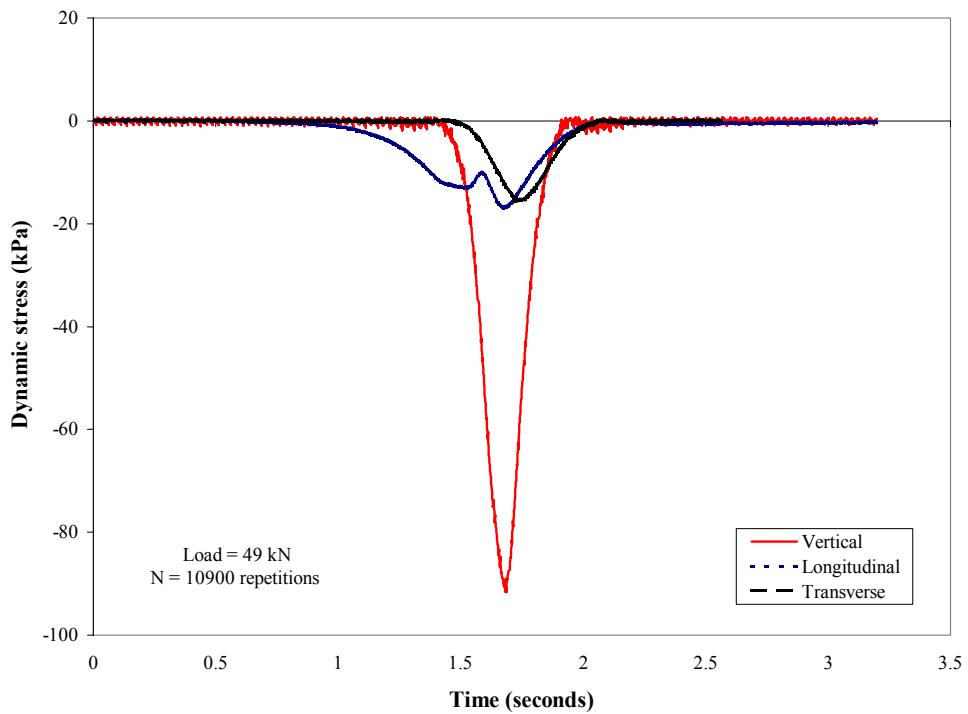


Figure 35. Typical stress response in subgrade

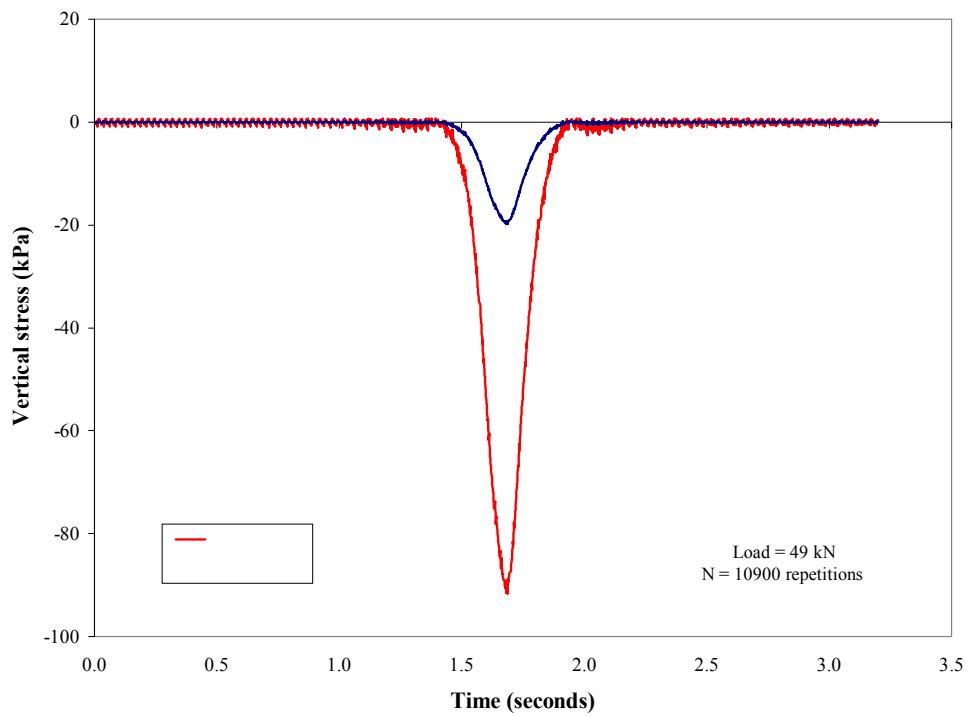


Figure 36. Influence of depth on stress response

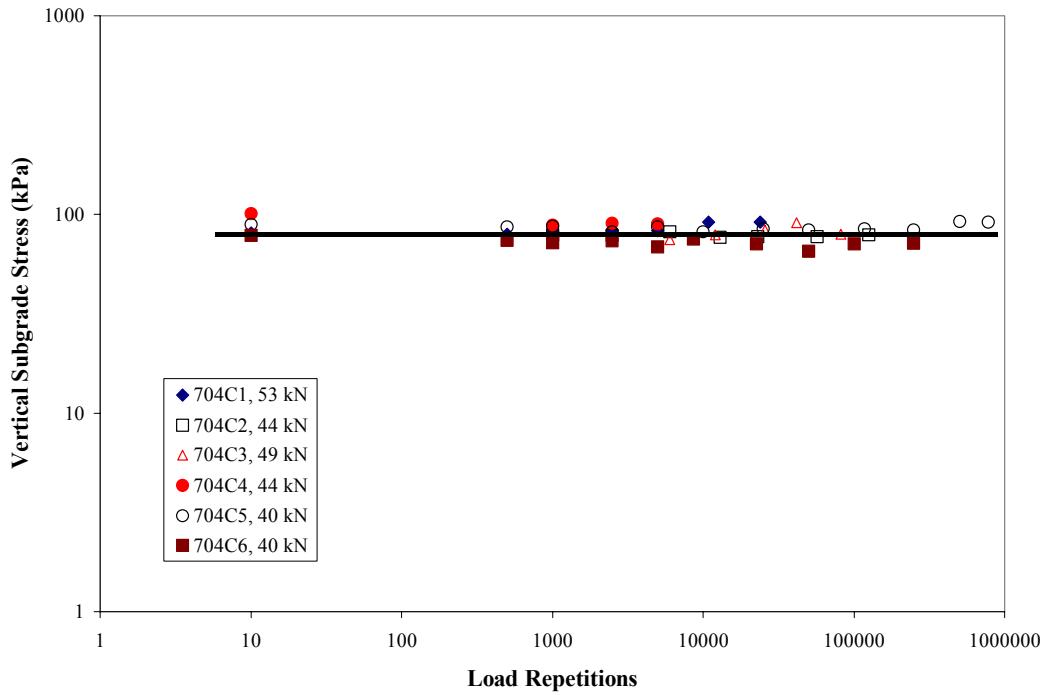


Figure 37. Change in stress at top of subgrade as a function of load repetitions.

SUMMARY & CONCLUSIONS

Accelerated Pavement Testing was conducted on an test section with an A-4 subgrade soil placed at wet of optimum density and moisture content of 1700 kg/m^3 and 19.9% respectively. The subgrade layer was instrumented with stress, strain, temperature and moisture sensors.

The test section was divided into 6 test windows and accelerated pavement testing was conducted over a period of 11 months. During the accelerated pavement testing, dynamic stresses, dynamic and permanent strains, and surface rut depth measurements were collected at given loading intervals. Stress measurements were collected in all of the six test windows. Strain measurements were collected in all six windows to a depth of 1.2-m into the subgrade. Stress and strain measurements were made in the vertical, longitudinal and transverse directions of loading. Temperature and moisture measurements were made every 4 hours during the tests. The test loads varied between 40 to 54-kN. The average tire pressure was 690-kPa.

The dynamic strains at failure are compared with the current Asphalt Institute and Shell subgrade failure criterions, Figure 38. In additions the strains at failure from the other subgrades are shown in Figure 38. Note that these results were measured at 12 km/hr. To be able to compare with the results from the AASHO Road tests, where the test speed was 48 km/hr, a correction factor was applied to the strain data. The correction factors were developed based on results from MnRoad (Dai and Van Deusen, 1998,

Janoo, et al, 2002). The test results were multiplied by factors of 0.63 and 0.48 for speeds of 48 km/hour (AASHO Road Test) and 88 km/hour (highway) respectively.

In terms of the allowable number of load repetitions N_d to limit rutting on top of the subgrade, where

$$N_d = f_4 (\varepsilon_v)^{-f_5}$$

the coefficients f_4, f_5 are 0.053 and -2.667 for highway speeds.

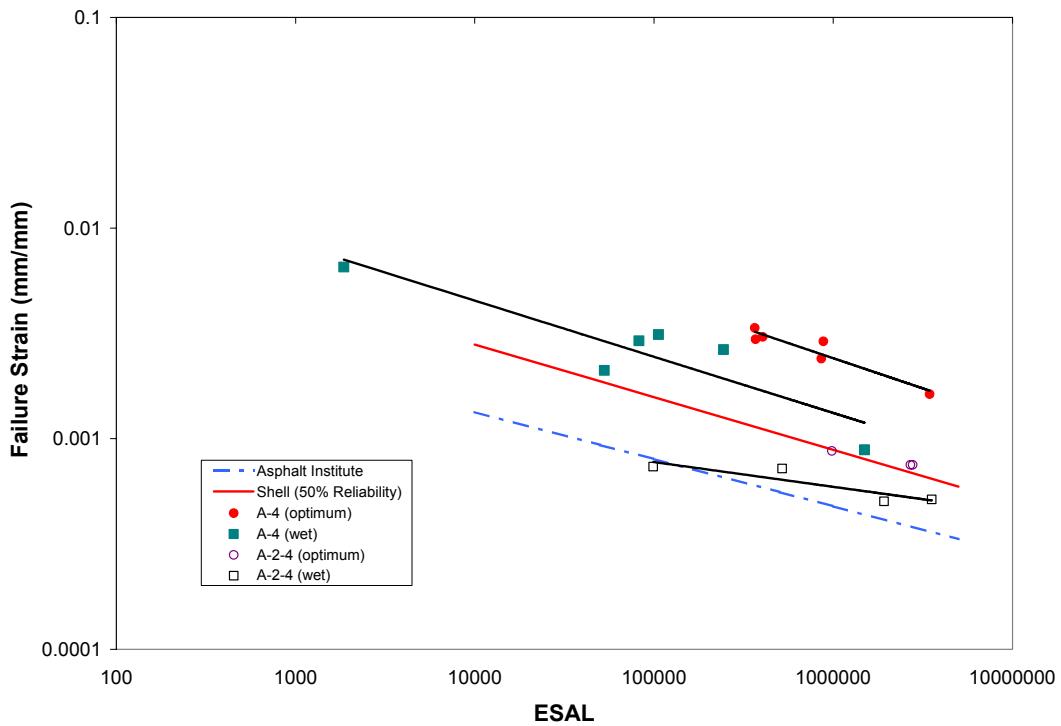


Figure 38. Effect of soil type on the subgrade failure criterion

REFERENCE

Dai, S.T., D.Van Deusen, D.Rettner and G.Cochran. "Investigation of Flexible Pavement Response to Truck Speed and FWD Load Through Instrumented Pavements", Proceedings of the 8th International Conference on Flexible Pavements. Seattle, Washington, pp.141-160. 1997.

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APPENDIX A: FROST EFFECTS RESEARCH FACILITY (FERF)

DESCRIPTION OF FROST EFFECTS RESEARCH FACILITY

The FERF is a 2,700 m² environmentally controlled building. The overall facility is 56 m long by 31 m wide (Figure A-1).



Figure A-1. Frost Effects Research Facility (FERF)

Within the facility are 12 test cells, which are 6.4 m wide. Eight of the cells (TC-1 to TC-8) are 7.6 m long and 2.4 m deep. The remaining 4 cells (TB-9 to TB-12) are of the same width but are 11.3 m long and 3.7 m deep, A- 2. They can be used individually for smaller experiments or combined in a variety of ways to accommodate larger projects. In addition, the cells can be made impermeable to simulate the raising and lowering of the water table.

The ambient air temperature within the facility can be controlled from -4 °C to 24 °C with a ± 2 °C tolerance. The temperatures in the test cell can be further reduced or increased using surface panels (- 32 °C to 49 °C).

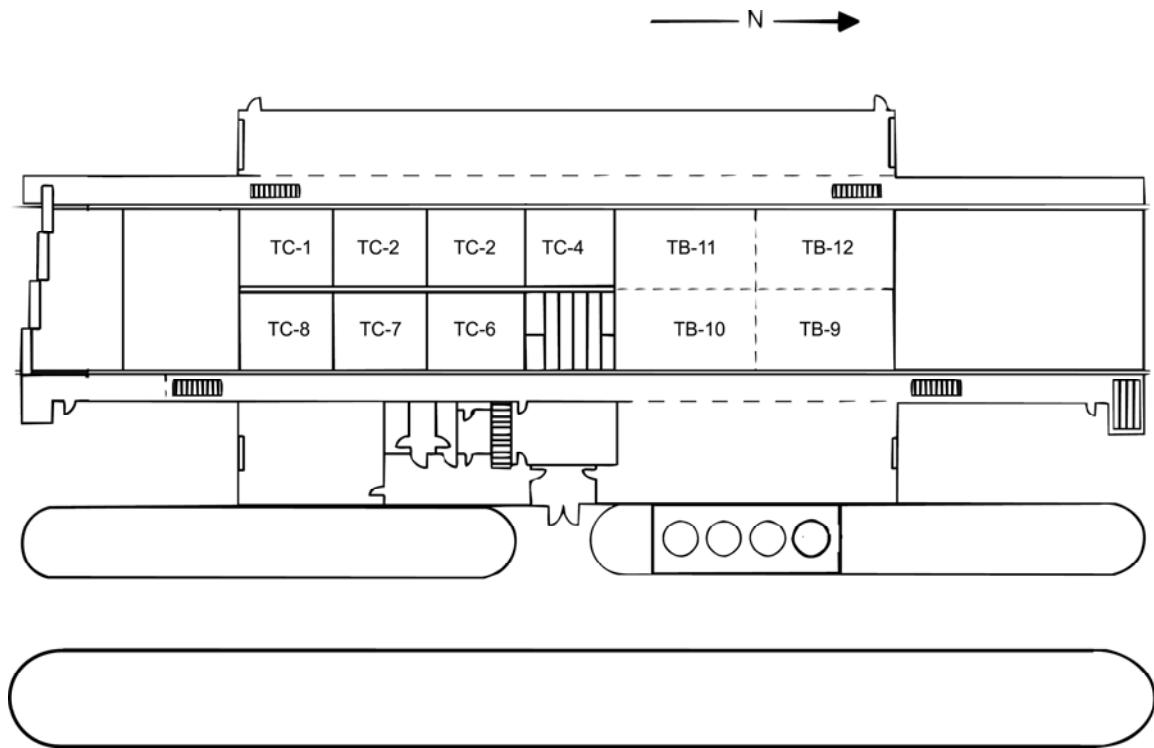


Figure A-2. Plan view of test basins in the Frost Effects Research Facility (FERF)

APPENDIX B: CONSTRUCTION DATA

Table B-1. As constructed densities of the various layers

Depth from AC surface (m)	1.22	1.07	0.91	0.76	0.61	0.30
Station	Dry Density (kg/m ³)					
1	1677	1728	1696	1608	1645	1725
2	1687	1741	1711	1639	1704	1736
3	1733	1741	1756	1616	1727	1719
4	1728	1743	1692	1661	1658	1666
5	1735	1708	1682	1655	1672	1728
6	1764	1735	1720	1635	1693	1717
7	1736	1719	1741	1658	1666	1698
8	1741	1724	1749	1634	1687	1724
9	1693	1722	1724	1613	1640	1650
10	1706	1730	1687	1627	1645	1719
11	1749	1690	1693	1618	1652	1688
12	1752	1698	1672	1653	1690	1741
13	1740	1711	1679	1623	1700	1728
14	1719	1732	1676	1613	1719	1704
15	1765	1736	1680	1668	1677	1692
16	1770	1700	1711	1671	1698	1700
17	1764	1746	1717	1663	1732	1671
18	1773	1706	1740	1660	1698	1719
19	1778	1684	1740	1639	1722	1725
20	1764	1712	1738	1682	1677	
21	1748	1682	1709	1677	1527	1712
22	1741	1685	1706	1674	1587	1701
23	1725	1679	1712	1660	1658	1717
24	1765	1682	1696	1631	1701	1754
25	1746	1728	1693	1642	1677	1773
26	1736	1716	1701	1679	1714	1725
27	1741	1716	1716	1682	1693	1676
28		1639	1698	1661	1666	1706
29	1760	1700	1728	1653	1690	1743
30	1776	1708	1748	1652	1664	

Table B-2. As constructed moisture contents of the various layers

Depth from AC surface (m)	1.22	1.07	0.91	0.76	0.61	0.30
Station	Moisture Content (%)					
1	18.5	19.2	20.5	22.9	20.3	19.5
2	21.0	18.5	20.2	22.0	19.8	19.5
3	19.6	18.6	20.8	23.1	17.9	19.2
4	19.2	18.9	20.8	20.6	20.3	21.3
5	19.2	20.4	21.3	23.0	19.7	19.1
6	18.8	19.5	19.7	22.2	19.7	19.9
7	19.1	19.6	19.1	21.2	20.1	21.2
8	19.8	18.9	18.8	20.4	19.1	20.1
9	20.1	18.9	19.5	23.6	21.5	22.4
10	18.1	18.5	20.8	22.3	20.7	20.4
11	19.2	19.2	19.8	20.6	18.9	20.8
12	18.1	18.1	21.7	21.2	18.8	19.2
13	19.8	20.2	21.3	22.7	20.4	19.5
14	20.2	18.3	22.0	22.3	18.8	21.0
15	18.7	18.7	20.5	21.3	19.6	20.2
16	18.9	20.1	19.8	20.2	19.4	20.9
17	19.1	19.4	19.9	19.9	19.0	21.0
18	17.2	19.3	18.8	20.2	20.2	20.9
19	18.6	19.2	18.2	21.3	19.7	19.7
20	18.9	20.0	17.9	19.7	21.1	
21	18.9	19.5	18.4	19.3	24.9	20.4
22	19.5	19.1	20.3	20.6	21.4	20.7
23	18.8	17.1	19.7	19.9	20.1	20.2
24	18.6	18.6	20.5	22.1	19.7	19.3
25	19.2	18.3	21.4	20.9	20.0	18.0
26	19.2	19.4	21.1	20.5	19.4	19.7
27	18.8	18.6	19.7	20.9	20.2	19.4
28	17.7	16.5	20.3	20.5	21.0	19.2
29	17.8	18.3	18.8	21.6	19.9	19.2
30	17.4	18.7	18.5	20.1	21.4	

Table B-3. As constructed CLEGG hammer CBR of the various layers

STATION	T1	T2	T3	T4	STATION	T1	T2	T3	T4
1	1.1	1.1	1.8	0.6	31	2.5	1.8	0.3	1.8
2	1.8	2.5	1.1	1.1	32	2.5	2.5	0.3	1.1
3	2.5	1.8	0.3	0.6	33	1.8	3.4	1.1	1.1
4	1.8	1.8	0.3	0.6	34	2.5	3.4	1.1	0.6
5	1.8	1.8	1.1	1.1	35	2.5	2.5	0.3	0.6
6	1.1	1.8	1.1	1.1	36	1.1	4.5	0.3	1.1
7	1.1	1.8	1.1	1.1	37	1.1	3.4	0.3	1.1
8	1.8	2.5	0.6	1.1	38	1.1	3.4	0.3	1.1
9	1.8	3.4	0.6	1.1	39	1.8	2.5	1.1	1.8
10	1.1	2.5	1.1	0.6	40	2.5	1.8	1.1	1.1
11	1.8	1.8	1.1	1.1	41	2.5	1.8	0.6	1.1
12	2.5	4.5	1.1	1.1	42	2.5	1.8	1.1	1.1
13	1.1	1.8	0.3	0.6	43	2.5	1.8	0.3	1.1
14	1.8	1.8	1.8	1.1	44	2.5	2.5	0.6	0.6
15	2.5	2.5	0.3	1.1	45	3.4	4.5	1.8	0.6
16	2.5	1.1	0.6	1.1	46	2.5	3.4	0.6	1.1
17	1.8	1.8	0.6	0.6	47	2.5	3.4	0.6	1.1
18	2.5	1.1	0.3	1.1	48	1.8	3.4	0.6	0.6
19	2.5	1.8	0.3	1.8					
20	1.8	1.8	1.8	1.1					T1 = layer at depth of 1.07-m.
21	1.8	2.5	0.6	1.1					T2 = layer at depth of 0.91-m.
22	1.8	0.6	0.6	1.8					T3 = layer at depth of 0.76-m.
23	1.8	0.6	1.8	1.8					T4 = layer at depth of 0.61-m.
24	2.5	3.4	0.6	1.1					
25	1.1	1.8	1.1	1.8					
26	1.8	2.5	0.6	1.8					
27	2.5	1.8	0.6	1.1					
28	2.5	2.5	0.3	0.6					
29	1.8	1.8	0.6	1.1					
30	2.5	1.1	1.8	1.8					

APPENDIX C: INSTRUMENTATION DATA

Table C-1. Location of ϵ mu (strain) measurement gages

ID	X (m)	Y (m)	Z (mm)	ID	X (m)	Y (m)	Z (mm)
MU421	7.47	4.61	76	EMU186	7.62	3.35	616
EMU422	7.62	4.61	76	EMU185	7.47	3.20	616
EMU423	7.47	4.46	76	EMU184	7.47	3.35	616
EMU402	7.62	4.61	191	EMU166	7.62	3.35	759
EMU403	7.47	4.46	191	EMU165	7.47	3.20	759
EMU401	7.47	4.61	191	EMU164	7.47	3.35	759
EMU222	7.62	4.61	292	EMU146	7.62	3.35	911
EMU223	7.47	4.46	292	EMU145	7.47	3.20	911
EMU221	7.47	4.61	292	EMU144	7.47	3.35	911
EMU202	7.62	4.61	448	EMU126	7.62	3.35	1067
EMU203	7.47	4.46	448	EMU125	7.47	3.20	1067
EMU201	7.47	4.61	448	EMU124	7.47	3.35	1067
EMU182	7.62	4.61	613	EMU106	7.62	3.35	1213
EMU183	7.47	4.46	613	EMU105	7.47	3.20	1213
EMU181	7.47	4.61	613	EMU104	7.47	3.35	1213
EMU162	7.62	4.61	762	EMU428	7.62	2.13	76
EMU163	7.47	4.46	762	EMU429	7.47	1.98	76
EMU161	7.47	4.61	762	EMU427	7.47	2.13	76
EMU141	7.47	4.61	899	EMU408	7.62	2.13	203
EMU142	7.62	4.61	899	EMU409	7.47	1.98	203
EMU143	7.47	4.46	899	EMU407	7.47	2.13	203
EMU121	7.47	4.61	1067	EMU228	7.62	2.13	308
EMU122	7.62	4.61	1067	EMU229	7.47	1.98	308
EMU123	7.47	4.46	1067	EMU227	7.47	2.13	308
EMU101	7.47	4.61	1219	EMU208	7.62	2.13	457
EMU102	7.62	4.61	1219	EMU209	7.47	1.98	457
EMU103	7.47	4.46	1219	EMU207	7.47	2.13	457
EMU426	7.62	3.35	76	EMU188	7.62	2.13	616
EMU425	7.47	3.20	76	EMU189	7.47	1.98	616
EMU424	7.47	3.35	76	EMU187	7.47	2.13	616
EMU406	7.62	3.35	197	EMU168	7.62	2.13	762
EMU405	7.47	3.20	197	EMU169	7.47	1.98	762
EMU404	7.47	3.35	197	EMU167	7.47	2.13	762
EMU226	7.62	3.35	311	EMU148	7.62	2.13	914
EMU225	7.47	3.20	311	EMU149	7.47	1.98	914
EMU224	7.47	3.35	311	EMU147	7.47	2.13	914
EMU206	7.62	3.35	451	EMU128	7.62	2.13	1067
EMU205	7.47	3.20	451	EMU129	7.47	1.98	1067
EMU204	7.47	3.35	451	EMU127	7.47	2.13	1067
				EMU108	7.62	2.13	1219

Table C-1. Location of ϵ mu (strain) measurement gages (cont)

ID	X (m)	Y (m)	Z (mm)		EMU214	18.29	3.35	457
ID	X (m)	Y (m)	Z (mm)		EMU215	18.14	3.20	457
EMU109	7.47	1.98	1219		EMU213	18.14	3.35	457
EMU107	7.47	2.13	1219		EMU194	18.29	3.35	619
EMU431	18.29	4.57	76		EMU195	18.14	3.20	619
EMU432	18.14	4.42	76		EMU193	18.14	3.35	619
EMU430	18.14	4.57	76		EMU174	18.29	3.35	765
EMU411	18.29	4.57	197		EMU175	18.14	3.20	765
EMU412	18.14	4.42	197		EMU173	18.14	3.35	765
EMU410	18.14	4.57	197		EMU154	18.29	3.35	914
EMU231	18.29	4.57	305		EMU155	18.14	3.20	914
EMU232	18.14	4.42	305		EMU153	18.14	3.35	914
EMU230	18.14	4.57	305		EMU134	18.29	3.35	1067
EMU211	18.29	4.57	454		EMU135	18.14	3.20	1067
EMU212	18.14	4.42	454		EMU133	18.14	3.35	1067
EMU210	18.14	4.57	454		EMU114	18.29	3.35	1219
EMU191	18.29	4.57	622		EMU115	18.14	3.20	1219
EMU192	18.14	4.42	622		EMU113	18.14	3.35	1219
EMU190	18.14	4.57	622		EMU437	18.29	2.13	76
EMU171	18.29	4.57	762		EMU438	18.14	1.98	76
EMU172	18.14	4.42	762		EMU436	18.14	2.13	76
EMU170	18.14	4.57	762		EMU417	18.29	2.13	187
EMU151	18.29	4.57	914		EMU418	18.14	1.98	187
EMU152	18.14	4.42	914		EMU416	18.14	2.13	187
EMU150	18.14	4.57	914		EMU237	18.29	2.13	305
EMU131	18.29	4.57	1067		EMU238	18.14	1.98	305
EMU132	18.14	4.42	1067		EMU236	18.14	2.13	305
EMU130	18.14	4.57	1067		EMU217	18.29	2.13	457
EMU111	18.29	4.57	1216		EMU218	18.14	1.98	457
EMU112	18.14	4.42	1216		EMU216	18.14	2.13	457
EMU110	18.14	4.57	1216		EMU197	18.29	2.13	616
EMU434	18.29	3.35	76		EMU198	18.14	1.98	616
EMU435	18.14	3.20	76		EMU196	18.14	2.13	616
EMU433	18.14	3.35	76		EMU177	18.29	2.13	756
EMU414	18.29	3.35	187		EMU178	18.14	1.98	756
EMU415	18.14	3.20	187		EMU176	18.14	2.13	756
EMU413	18.14	3.35	187		EMU157	18.29	2.13	914
EMU234	18.29	3.35	298		EMU158	18.14	1.98	914
EMU235	18.14	3.20	298		EMU156	18.14	2.13	914
EMU233	18.14	3.35	298		EMU137	18.29	2.13	1067
ID	X (m)	Y (m)	Z (mm)					

Table C-1. Location of ϵ mu (strain) measurement gages (cont)

ID	X (m)	Y (m)	Z (mm)
EMU138	18.14	1.98	1067
EMU136	18.14	2.13	1067
EMU117	18.29	2.13	1210
EMU118	18.14	1.98	1210
EMU116	18.14	2.13	1210

Table C-2. Location of DYNATEST pressure cells

ID	F.S. Range (kPa)	Test Window	Measurement Orientation	Location		
				X (m)	Y (m)	Z (mm)
A3.3	800	704C1	Z	4.57	4.57	660
B3.1	200	704C1	Z	4.57	4.57	406
A3.11	800	704C2	X	4.88	4.57	381
A3.12	800	704C2	Y	4.27	4.57	381
A3.1	200	704C2	Z	4.57	3.35	381
A3.7	200	704C3	Z	4.57	2.13	381
A3.8	200	704C4	Z	15.24	4.57	381
B3.3	800	704C5	Z	15.24	3.35	381
B3.7	800	704C6	Z	15.24	2.13	381

Table C-3. Location of VITEL moisture sensors

ID	Location		
	X (m)	Y (m)	Z (m)
V399	12.5	4.5	305
V404	12.5	3.4	610
V403	4.9	1.4	889
V402	13.3	3.9	1219
V401	11.3	4.5	1549
V400	4.2	5.3	1829

Table C-4. Location of subsurface thermocouples in base and subgrade

	X	Y	Z
ID south	m	m	mm
1	2.7	4.8	76
2	2.7	4.8	152
3	2.7	4.8	229
4	2.7	4.8	305
5	2.7	4.8	457
6	2.7	4.8	610
7	2.7	4.8	686
8	2.7	4.8	762
9	2.7	4.8	914
10	2.7	4.8	1067
11	2.7	4.8	1219
12	2.7	4.8	1372
	X	Y	Z
ID north	m	m	mm
1	11.6	3.8	76
2	11.6	3.8	152
3	11.6	3.8	229
4	11.6	3.8	305
5	11.6	3.8	457
6	11.6	3.8	457
7	11.6	3.8	610
8	11.6	3.8	762
9	11.6	3.8	914
10	11.6	3.8	914
11	11.6	3.8	1067
12	11.6	3.8	1219

APPENDIX D: HEAVY VEHICLE SIMULATOR

The test sections were loaded using the DYNATEST™ Mark IV Heavy Vehicle Simulator (HVS), an accelerated loading system used by the South African Commonwealth of Scientific & Industrial Research (CSIR) for over twenty years, Figure D-1. The HVS delivered to CRREL was a modification of the existing MK III. The modifications included increased speed capability, automatic and manual controls, and an electric motor to drive the test carriage. The HVS is monitored continuously and is set to automatically shutdown out if a major problem is detected.

The HVS is approximately 23-m long, 4-m wide and 4-m high and weighs about 46 metric tons. It can accommodate dual truck tires, a super single truck tire, or a C-141 aircraft tire. The load on the dual and super single can range between 20 to 100-kN. The C-141 tire can be loaded to 200-kN. The loads on the dual or super single can be applied in either one or both directions. The length of the test section where the load is applied at constant velocity is 6-m. The load on the dual tires or super single can be applied at a creep rate up to 13 km/hr. An additional feature to the Mark IV HVS, is the ability to program the load distribution on the pavement section. The maximum lateral wander of the test wheel will be set at 0.9-m. Table B-1 provides a summary of the features of the HVS Mark IV.

For this project, the speed will be set at 13 km/hr per hour, the number of load repetitions on the dual tire in one direction is approximately 700 per hour. In addition, the HVS was operated 22 hours per day, 7 days a week. Trafficking of the test section is uni-directional. Uni-directional was selected since highways pavements are subjected to uni-directional loads. The test windows were subjected to wheel wander and the length of the wander will set over the width of the test windows in increments of 5 cm to a maximum of 0.9-m, which ever is the smaller.

A dual truck tire used for the study. The dimensions of the tires are shown in Figure D-2. The tires were manufactured by Bridgestone.

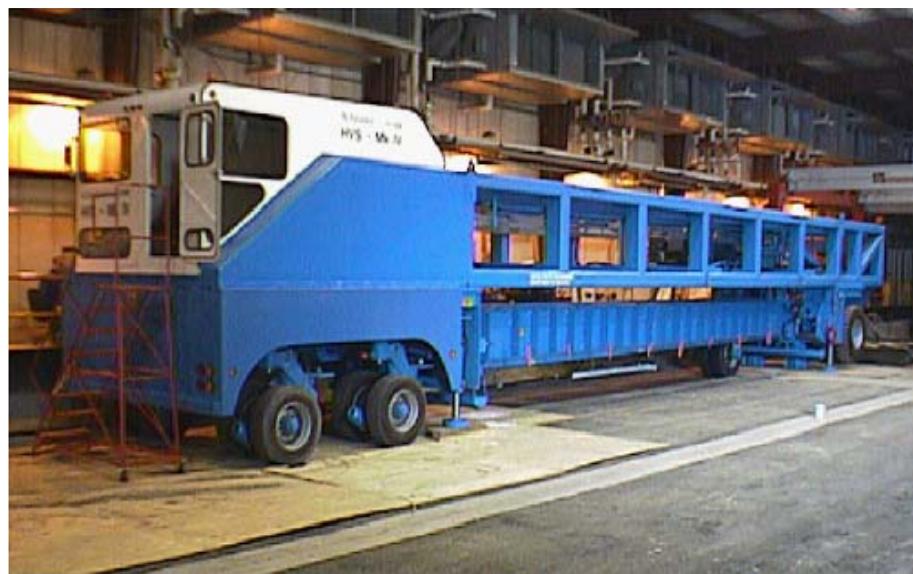


Figure D-1. Heavy Vehicle Simulator (HVS)

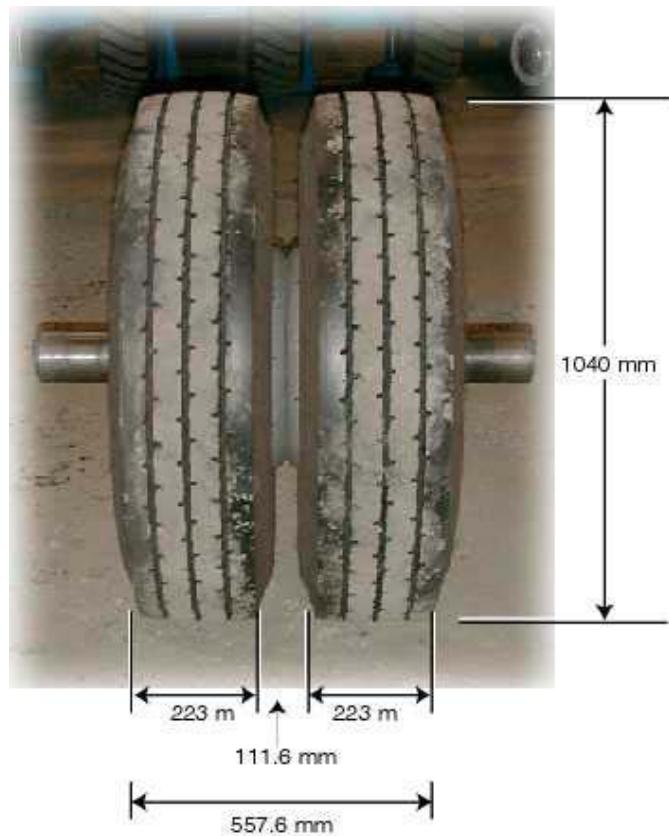


Figure D-2. Dimensions of the test tire

APPENDIX E: SURFACE PROFILE TEST RESULTS

Table E-1. Surface rut measurements in 704C1

Load Repetition Maximum Rut (mm)	0	500	1000	2500	5000	10900 ⁽¹⁾	10900 ⁽²⁾	23947
Pos3	0	4.18	4.05	2.93	6.24	8.99	8.70	15.30
Pos4	0	4.04	4.19	3.81	5.60	7.06	7.28	15.04
Pos5	0	3.56	3.79	4.85	5.15	6.42	6.27	13.11
Pos6	0	3.47	3.12	3.94	4.61	5.95	5.63	11.74
Pos7	0	3.51	3.58	4.50	4.87	5.55	6.29	12.36
Pos8	0	3.38	3.57	4.14	4.70	5.67	5.13	13.64
Pos9	0	3.52	3.34	2.95	3.55	5.03	5.10	11.96
Pos10	0	2.77	3.04	3.59	3.51	5.44	5.53	13.52
Pos11	0	3.17	3.14	3.73	3.64	7.16	6.96	13.46
Pos12	0	3.68	4.16	4.45	4.91	9.58	8.70	15.26
Pos13	0	3.56	3.83	4.25	5.58	10.89	10.59	12.11
Pos14	0	4.33	4.59	4.83	7.08	10.93	10.89	14.40
Pos15	0	3.95	4.10	4.67	6.87	16.75	10.91	14.60
Pos16	0	3.99	4.57	5.12	7.48	41.41	11.51	15.44
Pos17	0	4.03	4.30	5.54	7.21	32.70	10.41	15.94
Pos18	0	4.62	4.86	5.79	7.57	5.66	10.84	
Pos19	0	4.56	5.27	6.23	8.47	5.31	12.90	
Pos20	0	5.11	5.55	6.54	8.35	7.07	23.84	17.75
Pos21	0	4.49	4.64	5.97	7.53	10.41	10.56	20.95
Pos22	0	4.03	4.58	5.03	6.41	9.16	9.21	13.61

(1) Measurements taken prior to crack repair.

(2) Measurements taken at end of crack repair.

Table E-2. Surface rut measurements in 704C2

Load Repetition	0	500	1000	2500	6000	22930	125581
Pos3	0	3.14	4.17	5.59	6.29	8.24	12.20
Pos4	0	3.64	3.78	5.08	5.47	8.38	13.86
Pos5	0	3.32	3.59	4.42	5.51	7.48	14.92
Pos6	0	3.03	3.26	4.00	5.45	9.01	15.21
Pos7	0	2.32	2.93	3.60	4.99	8.70	15.57
Pos8	0	2.68	2.58	3.80	4.60	9.43	15.97
Pos9	0	1.04	1.77	4.13	5.35	9.11	13.02
Pos10	0	3.47	3.67	5.04	5.38	10.28	17.56
Pos11	0	2.85	3.05	4.09	5.04	9.46	17.80
Pos12	0	3.51	3.99	4.79	6.21	11.65	19.75
Pos13	0	3.49	3.71	4.84	6.35	12.44	20.66
Pos14	0	2.96	3.58	4.73	6.15	11.72	18.83
Pos15	0	2.54	2.95	6.19	4.63	9.33	16.41
Pos16	0	2.95	3.58	6.15	5.67	9.82	16.68
Pos17	0	2.53	3.25	5.73	5.63	9.75	15.72
Pos18	0	2.53	2.75	5.92	5.85	8.90	14.81
Pos19	0	2.91	2.95	5.17	8.60	13.85	
Pos20	0	2.54	2.67	5.96	4.49	7.84	12.01
Pos21	0	1.89	1.97	7.51	3.68	7.70	12.00
Pos22	0	1.55	2.09	2.42	4.17	7.40	12.45

Table E-3. Surface rut measurements in 704C3

Load Repetition	0	500	1000	2500	6000	Maximum Rut Depth (mm)	12000	25751	41800	81850
Pos3	0	2.36	0.56	3.99	4.98	7.42	10.22	12.65	20.11	22.22
Pos4	0	1.21	-0.12	2.85	4.86	6.51	9.21	11.89	22.23	25.23
Pos5	0	1.10	-0.26	1.57	3.98	5.69	8.26	10.96	12.17	32.01
Pos6	0	2.07	-0.57	2.35	4.68	6.19	9.22	14.51	39.64	
Pos7	0	1.79	-0.53	3.06	5.45	7.29	11.04	12.30	16.94	
Pos8	0	1.23	-0.45	3.72	5.35	8.31	11.93	16.25	43.60	
Pos9	0	1.39	2.95	3.70	5.83	9.07	12.30	16.94	43.64	
Pos10	0	2.03	2.90	3.85	6.68	9.83	12.85	18.23	43.44	
Pos11	0	1.48	-0.44	4.30	7.01	10.01	14.33	19.21	42.46	
Pos12	0	0.78	-0.39	3.56	6.98	10.36	14.58	19.59	41.25	
Pos13	0	1.24	1.07	3.70	6.33	9.42	13.58	18.76	39.07	
Pos14	0	1.49	1.14	3.50	6.72	9.21	14.41	18.88	36.27	
Pos15	0	1.12	-0.73	2.99	5.06	6.96	11.14	15.21	29.83	
Pos16	0	1.37	-1.03	2.97	4.40	6.77	10.95	13.97	27.53	
Pos17	0	1.46	-0.74	3.22	5.35	6.24	10.32	13.60	24.23	
Pos18	0	0.46	-0.23	2.87	4.10	5.79	8.88	11.74	18.75	
Pos19	0	0.82	-0.74	2.15	4.15	6.36	9.00	11.36	16.39	
Pos20	0	0.26	0.60	2.42	4.23	5.16	7.85	10.09	14.54	
Pos21	0	0.96	1.12	2.33	4.13	5.94	8.24	10.64	14.86	
Pos22	0	0.63	-0.43	2.17	4.03	5.72	8.38	10.53	14.29	

Table E-4. Surface rut measurements in 704C4

Load Repetition	0	1000	2500	5000
Maximum Rut Depth (mm)				
Pos3	0	4.26	5.24	5.66
Pos4	0	4.38	5.84	6.91
Pos5	0	5.83	6.92	8.18
Pos6	0	6.26	7.20	9.07
Pos7	0	6.55	7.95	9.48
Pos8	0	6.31	7.50	9.32
Pos9	0	6.83	8.04	11.23
Pos10	0	7.39	10.15	12.68
Pos11	0	8.98	10.97	14.58
Pos12	0	11.31	13.13	14.85
Pos13	0	13.53	16.04	18.83
Pos14	0	15.25	17.50	19.95
Pos15	0	14.35	16.99	20.34
Pos16	0	13.63	16.42	19.47
Pos17	0	11.86	13.83	16.64
Pos18	0	11.36	14.22	17.13
Pos19	0	11.92	13.63	16.01
Pos20	0	10.68	13.89	15.38
Pos21	0	10.24	12.38	13.60
Pos22	0	7.97	9.86	12.55

Table E-5. Surface rut measurements in 704C5

Load Repetition	0	500	1000	2500	5000	10000	25000	50000	Maximum Rut Depth (mm)	117430	250000	425182	780122	830366
Pos3	0	1.21	2.01	2.11	2.99	3.76	4.98	5.98	7.45	8.73	9.38	10.13	9.45	9.45
Pos4	0	0.97	1.48	1.84	2.43	3.02	4.41	4.52	7.35	8.78	9.37	10.15	9.68	9.68
Pos5	0	1.74	2.14	1.95	2.98	3.45	5.05	4.74	5.84	9.29	10.33	11.06	10.72	10.72
Pos6	0	1.47	2.04	2.11	2.88	3.90	4.79	6.76	11.21	10.17	10.98	11.22	11.92	11.92
Pos7	0	1.72	1.72	2.38	2.88	3.90	4.83	6.51	10.86	10.01	10.83	11.75	11.73	11.73
Pos8	0	2.25	1.67	2.41	3.39	4.55	5.73	7.30	10.54	10.24	11.31	11.75	11.11	11.11
Pos9	0	1.58	1.74	2.37	3.06	3.78	4.61	5.96	5.96	9.02	9.59	10.24	10.54	10.54
Pos10	0	1.87	2.05	1.82	2.93	3.33	4.26	5.59	6.41	8.62	9.34	9.92	10.05	10.05
Pos11	0	1.85	2.29	2.47	3.09	3.81	4.74	6.19	12.27	8.97	9.81	10.06	10.72	10.72
Pos12	0	1.27	1.48	2.06	2.76	3.44	4.35	6.04	9.92	8.76	9.22	9.86	10.37	10.37
Pos13	0	1.19	1.61	2.18	3.14	3.59	4.79	5.70	8.05	9.13	10.01	9.66	11.18	11.18
Pos14	0	2.09	2.12	1.80	3.48	4.34	5.13	5.87	10.80	10.01	9.83	10.03	11.70	11.70
Pos15	0	1.16	1.48	1.55	2.42	3.76	4.43	5.70	7.84	8.22	8.67	8.33	10.31	10.31
Pos16	0	1.30	1.14	1.05	2.02	3.30	4.88	3.98	7.94	8.24	8.15	8.92	9.85	9.85
Pos17	0	1.96	1.54	2.33	3.18	3.68	4.96	5.46	6.18	8.32	8.52	9.37	10.48	10.48
Pos18	0	1.30	1.62	2.40	2.46	2.81	4.20	5.18	6.37	8.16	8.33	9.85	9.68	9.68
Pos19	0	1.14	1.61	1.45	2.23	3.18	3.82	5.17	6.13	8.25	8.98	9.60	9.80	9.80
Pos20	0	1.69	2.04	1.85	3.10	3.65	4.56	5.52	6.74	8.44	9.27	10.12	10.20	10.20
Pos21	0	0.62	0.78	0.85	1.72	2.62	3.23	4.46	4.95	7.74	7.92	8.50	8.91	8.91
Pos22	0	-0.65	1.86	2.33	3.71	2.38	3.41	8.44	6.15	9.15	9.24	8.30	9.55	9.55

Table E-6. Surface rut measurements in 704C6

Load Repetition	0	500	1000	2500	5000	8600	20000	50000	100500	250000
				Maximum Rut Depth (mm)						
Pos3	0	1.73	2.30	3.10	4.09	4.67	6.43	8.58	10.56	13.15
Pos4	0	1.48	2.13	2.90	3.63	4.35	6.21	7.64	10.02	12.73
Pos5	0	1.95	2.56	3.52	4.47	4.59	7.36	8.65	10.73	13.45
Pos6	0	1.66	2.28	3.89	4.24	6.07	7.36	8.78	11.49	14.78
Pos7	0	1.41	2.27	3.18	3.99	4.38	6.55	8.16	10.64	14.16
Pos8	0	1.40	1.89	2.97	3.59	4.06	5.93	8.05	9.94	13.15
Pos9	0	1.11	1.57	2.43	3.12	3.42	5.66	7.34	9.70	12.87
Pos10	0	1.53	1.61	2.42	3.52	3.77	5.79	7.79	9.90	13.35
Pos11	0	1.45	1.88	2.72	3.23	3.88	5.77	7.56	9.69	13.25
Pos12	0	1.27	1.78	2.26	3.16	3.83	5.37	7.72	9.94	13.28
Pos13	0	1.31	1.87	2.22	3.00	3.69	5.96	7.53	9.73	12.68
Pos14	0	1.50	1.35	2.16	3.35	3.60	5.00	7.08	9.24	12.39
Pos15	0	1.17	1.75	2.05	2.69	2.95	4.96	6.52	8.46	11.64
Pos16	0	1.42	1.81	2.28	2.77	3.63	5.32	7.13	9.05	12.04
Pos17	0	1.67	1.71	2.47	2.71	3.50	5.23	7.37	8.99	12.29
Pos18	0	1.56	1.29	2.89	4.06	4.72	6.83	8.34	10.60	13.84
Pos19	0	0.84	1.48	1.98	2.97	2.96	4.41	6.14	7.08	10.05
Pos20	0	0.69	1.25	1.53	1.47	2.79	3.71	5.16	6.12	8.80
Pos21	0	1.18	1.34	2.09	2.23	2.40	3.91	4.70	5.99	8.91
Pos22	0	0.79	1.56	2.31	2.81	3.43	4.09	5.66	7.18	9.50

APPENDIX F: PERMANENT DEFORMATION & STRAIN TEST RESULTS

Table F-1. Permanent deformation (mm) in 704C1

Depth (mm)	Vertical Deformation (mm)						
	Load Repetition						
Surface*	0	500	1000	2500	5000	10900	23947
133	0.000	-3.755	-4.522	-5.260	-6.789	-7.672	-8.087
241	0.000	-0.553	-0.600	-0.921	-1.570	-2.382	-4.473
370	0.000	-0.326	-0.323	-0.523	-0.941	-1.176	-2.318
530	0.000	0.114	0.161	0.060	-0.161	-0.159	-0.607
687	0.000	0.000	0.032	-0.063	-0.272	-0.214	-0.561
830	0.000	0.047	0.083	-0.009	-0.215	-0.092	-0.428
983	0.000	0.094	0.130	0.049	-0.126	0.008	-0.277
Longitudinal Deformation (mm)							
Depth (mm)	Load Repetition						
	0	500	1000	2500	5000	10900	23947
76	0.000	0.323	0.268	0.107	-0.237	-0.322	0.251
191	0.000	0.486	0.459	0.388	0.197	0.358	0.437
292	0.000	0.606	0.603	0.548	0.377	0.503	0.240
448	0.000	0.465	0.432	0.370	0.189	0.372	0.076
613	0.000	0.426	0.395	0.336	0.167	0.347	0.064
762	0.000	0.392	0.360	0.295	0.129	0.301	0.010
Transverse Deformation (mm)							
Depth (mm)	Load Repetition						
	0	500	1000	2500	5000	10900	23947
76	0.000	0.826	0.629	0.897	0.994	1.695	1.538
191	0.000	0.604	0.587	0.561	0.518	0.850	0.756
292	0.000	0.716	0.705	0.652	0.528	0.703	0.420
448	0.000	0.490	0.454	0.392	0.244	0.440	0.139
613	0.000	0.449	0.411	0.349	0.195	0.380	0.070
762	0.000	0.407	0.369	0.312	0.167	0.324	0.041

* Surface measurement includes the asphalt layer and part of the base.

Table F-2. Permanent deformation (mm) in 704C2

Depth (mm)	Vertical Deformation (mm)								
	Load Repetition								
0	500	1000	2500	6000	13000	22930	57075	120000	
Surface	(0.000)	(-1.545)	-1.806	-1.980	-2.067	-2.196	-2.282	-3.042	
137	0.000	-1.184	-1.471	-2.171	-2.407	-3.273	-4.291	-4.999	
254	0.000	-0.378	-0.379	-0.589	-0.645	-0.958	-1.349	-1.528	
381	0.000	-0.376	-0.403	-0.724	-0.807	-1.156	-1.828	-2.039	
533	0.000	-0.225	-0.187	-0.453	-0.404	-0.575	-1.085	-1.025	
687	0.000	-0.143	-0.107	-0.311	-0.210	-0.273	-0.595	-0.465	
835	0.000	-0.129	-0.053	-0.244	-0.114	-0.147	-0.434	-0.275	
989	0.000	-0.128	-0.061	-0.252	-0.104	-0.116	-0.391	-0.215	
Longitudinal Deformation (mm)									
Depth (mm)	Load Repetition								
	0	500	1000	2500	6000	13000	22930	57075	120000
76	0.000	-1.180	-1.466	-2.146	-2.376	-3.260	-4.281	-4.936	-6.880
197	0.000	-0.397	-0.396	-0.604	-0.655	-0.963	-1.366	-1.528	-2.003
311	0.000	-0.431	-0.471	-0.805	-0.863	-1.231	-1.905	-2.113	-2.921
451	0.000	-0.271	-0.234	-0.511	-0.451	-0.638	-1.146	-1.085	-1.668
616	0.000	-0.164	-0.127	-0.339	-0.225	-0.298	-0.625	-0.490	-0.795
759	0.000	-0.146	-0.069	-0.267	-0.133	-0.172	-0.460	-0.298	-0.607
911	0.000	-0.140	-0.066	-0.266	-0.116	-0.130	-0.405	-0.229	-0.478
Transverse Deformation (mm)									
Depth (mm)	Load Repetition								
	0	500	1000	2500	6000	13000	22930	57075	120000
76	0.000								
197	0.000	0.080	0.056	-0.428	-0.336	-0.314	0.272		-0.544
311	0.000	0.079	0.142	0.032	0.176	0.274	0.182	0.494	0.336
451	0.000	-0.006	0.043	-0.049	0.074	0.145	0.016	0.278	0.190
616	0.000	-0.068	-0.038	-0.147	-0.048	-0.009	-0.194	0.000	-0.121
759	0.000	-0.045	0.141	0.243	-0.363	1.695	-0.771	-0.660	-0.806
911	0.000	-0.082	-0.043	-0.154	-0.062	-0.036	-0.199	-0.045	-0.164

() Data in italic brackets were estimated using a power curve with collected data.

Table F-3. Permanent deformation (mm) in 704C3

Depth (mm)	Vertical Deformation (mm)							
	Load Repetition							
Surface *	0	500	1000	6000	12000	25751	41800	81850
140	0.000	-0.410	-1.630	-3.825	-5.195	-8.439	-11.025	-17.517
256	0.000	-0.261	-0.375	-0.799	-1.285	-1.753	-2.404	-4.060
383	0.000	-0.146	-0.208	-0.386	-0.700	-0.913	-1.278	-2.424
537	0.000	-0.083	-0.119	-0.228	-0.445	-0.559	-0.786	-1.334
689	0.000	-0.108	-0.177	-0.170	-0.360	-0.373	-0.570	-0.906
838	0.000	-0.097	-0.164	-0.102	-0.245	-0.192	-0.305	-0.487
991	0.000	-0.088	-0.148	-0.085	-0.216	-0.158	-0.254	-0.406
Longitudinal Deformation (mm)								
Depth (mm)	Load Repetition							
	0	500	1000	6000	12000	25751	41800	81850
76	0.000	0.177	0.181	0.201	0.158	0.075	0.194	-0.295
203	0.000	0.003	0.007	0.073	0.021	-0.083	0.002	-0.399
308	0.000	-0.014	0.001	0.051	-0.006	-0.137	-0.064	-0.335
457	0.000	-0.089	-0.134	-0.016	-0.074	-0.135	-0.114	-0.271
616	0.000	-0.086	-0.133	-0.001	-0.042	-0.085	-0.030	-0.177
762	0.000	-0.075	-0.133	-0.001	-0.045	-0.080	-0.025	-0.165
914	0.000	-0.067	-0.124	-0.035	-0.065	-0.061	-0.124	-0.220
Transverse Deformation (mm)								
Depth (mm)	Load Repetition							
	0	500	1000	6000	12000	25751	41800	81850
76	0.000	0.209	0.255	0.306	0.291	0.783	1.141	2.727
203	0.000	0.086	0.086	0.216	0.127	0.444	0.623	2.082
308	0.000	0.040	0.043	0.156	0.038	0.237	0.287	0.510
457	0.000	-0.075	-0.133	-0.001	-0.145	0.020	-0.014	-0.014
616	0.000	-0.067	-0.124	-0.035	-0.065	-0.061	-0.124	-0.220
762	0.000	-0.065	-0.127	-0.052	-0.186	-0.104	-0.180	-0.313

* Surface measurement includes the asphalt layer and part of the base.

Table F-4. Permanent deformation (mm) in 704C4

Vertical Deformation (mm)				
	Load Repetition			
Depth (mm)	0	1000	2500	5000
Surface	0.000	-0.163	0.222	1.537
137	0.000	-3.976	-5.403	-7.006
251	0.000	-0.446	-0.626	-0.812
379	0.000	-1.521	-2.036	-2.647
538	0.000	-1.371	-1.538	-1.877
692	0.000	-0.837	-1.055	-1.430
838	0.000	-1.203	-1.345	-1.500
991	0.000	-0.473	-0.583	-0.551
Longitudinal Deformation (mm)				
	Load Repetition			
Depth (mm)	0	1000	2500	5000
76				
197	0.000	1.161	1.806	1.601
305	0.000	0.600	0.946	0.949
454	0.000	0.347	0.812	1.241
622	0.000	0.460	0.781	1.152
762	0.000	-0.152	-0.075	0.010
914	0.000	0.039	0.158	0.114
Transverse Deformation (mm)				
	Load Repetition			
Depth (mm)	0	1000	2500	5000
76				
197	0.000	1.392	1.779	2.011
305	0.000	1.821	2.249	2.685
454	0.000	1.034	1.322	1.930
622	0.000	0.600	0.787	1.030
762	0.000	0.130	0.183	0.207
914				

Table F-5. Permanent deformation (mm) in 704C5

Depth (mm)	Surface*	Vertical Deformation (mm)						Longitudinal Deformation (mm)					
		0	500	1000	2500	5000	10000	25000	50000	117340	250000	505281	780122
132	0.000	-0.494	-0.986	-1.475	-1.961	-2.204	-2.928	-57.000	-5.302	-6.468	-10.773	-7.848	
243	0.000	-0.052	-0.078	-0.094	-0.359	-0.252	-0.553	-0.534	-0.741	-1.086	-1.501	-1.088	
378	0.000	0.032	0.017	0.021	-0.299	-0.123	-0.493	-0.421	-0.618	-1.010	-1.685	-1.262	
538	0.000	0.023	-0.001	0.009	-0.277	-0.111	-0.428	-0.352	-0.495	-0.828	-1.398	-0.746	
692	0.000	0.056	0.027	0.054	-0.290	-0.059	-0.412	-0.224	-0.312	-0.400	-1.434	-0.887	
840	0.000	-0.108	-0.146	-0.114	-0.430	-0.206	-0.515	-0.320	-0.367	-0.414	-1.353	-0.604	
991	0.000	-0.111	-0.153	-0.117	-0.441	-0.203	-0.405	-0.286	-0.279	-0.301	-1.240	-0.286	
Depth (mm)	Surface*	Vertical Deformation (mm)						Longitudinal Deformation (mm)					
		0	500	1000	2500	5000	10000	25000	50000	117340	250000	505281	780122
76	0.000	0.209	0.106	0.132	-0.097	-0.038	-0.239	-0.146	-0.228	-0.595	-1.034	-0.520	
187	0.000	0.296	0.185	0.225	-0.020	0.072	-0.141	0.009	-0.063	-0.462	-1.146	-0.587	
298	0.000	0.267	0.158	0.191	-0.045	0.053	-0.139	0.017	-0.068	-0.460	-1.068	-0.168	
457	0.000	0.307	0.174	0.224	-0.037	0.077	-0.129	0.120	0.104	0.120	-0.868	-0.079	
619	0.000	0.068	-0.081	-0.034	-0.299	-0.183	-0.398	-0.169	-0.226	-0.260	-1.385	-0.538	
765	0.000	0.059	-0.076	-0.031	-0.273	-0.161	-0.219	-0.123	-0.116	-0.131	-1.092	-0.098	
914	0.000												

* Surface measurement includes the asphalt layer and part of the base.

Table F-5. Permanent deformation (mm) in 704C5 (continued)

Depth (mm)	Transverse Deformation (mm)							
	0	500	1000	2500	5000	10000	25000	50000
76								
187	0.000	0.128	0.263	0.277	-0.167	0.129	-0.272	-0.168
298	0.000	0.138	0.212	0.236	-0.169	0.124	-0.277	-0.160
457	0.000	0.099	0.146	0.169	-0.208	0.056	-0.292	-0.157
619	0.000	0.077	0.108	0.142	-0.241	0.207	-0.301	-0.104
765	0.000	-0.130	-0.133	-0.103	-0.453	-0.200	-0.525	-0.324
914	0.000	-0.121	-0.135	-0.096	-0.413	-0.185	-0.350	-0.268

Depth (mm)	Load Repetition							
	76	187	298	457	619	765	914	780122
76								
187	-0.278	-0.777	-1.375	-0.535				
298	-0.280	-0.776	-1.615	-0.937				
457	-0.245	-0.686	-1.415	-0.352				
619	-0.140	-0.169	-1.259	-0.375				
765	-0.385	-0.439	-1.520	-0.652				
914	-0.266	-0.312	-1.275	-0.267				

Table F-6. Permanent deformation (mm) in 704C6

Depth (mm)	Vertical Deformation (mm)									
	Load Repetition									
	0	500	1000	2500	5000	8600	22500	50000	100500	250100
Surface*	0.000	-0.640	-0.879	-1.153	-1.200	-1.616	-2.288	-3.055		-5.029
132	0.000	-0.204	-0.147	-0.140	-0.149	-0.357	-0.534	-0.573	-0.538	-0.863
246	0.000	-0.209	-0.259	-0.381	-0.352	-0.627	-0.911	-1.348	-1.470	-2.212
381	0.000	-0.185	-0.222	-0.285	-0.180	-0.384	-0.498	-0.796	-0.881	-1.486
537	0.000	-0.168	-0.207	-0.277	-0.188	-0.383	-0.470	-0.637	-0.717	-1.178
686	0.000	-0.151	-0.190	-0.248	-0.124	-0.306	-0.347	-0.491	-0.584	-0.934
835	0.000	-0.130	-0.167	-0.200	-0.050	-0.211	-0.206	-0.362	-0.397	-1.077
991	0.000									
Longitudinal Deformation (mm)										
Depth (mm)	Load Repetition									
	0	500	1000	2500	5000	8600	20000	50000	100500	250100
	76	0.000	-0.652	-0.874	-1.174	-1.217	-1.648	-2.230	-3.014	-5.071
187	0.000	-0.207	-0.148	-0.156	-0.155	-0.363	-0.533	-0.565	-0.536	-0.860
305	0.000	-0.214	-0.264	-0.422	-0.361	-0.648	-0.914	-1.324	-1.446	-2.199
457	0.000	-0.198	-0.234	-0.350	-0.217	-0.444	-0.531	-0.782	-0.860	-1.498
616	0.000	-0.176	-0.216	-0.309	-0.211	-0.413	-0.491	-0.632	-0.708	-1.190
756	0.000	-0.156	-0.196	-0.268	-0.136	-0.321	-0.357	-0.483	-0.576	-0.937
914	0.000	-0.134	-0.170	-0.210	-0.057	-0.221	-0.214	-0.362	-0.397	-1.319
Transverse Deformation (mm)										
Depth (mm)	Load Repetition									
	0	500	1000	2500	5000	8600	20000	50000	100500	250100
	76	0.000	-0.247	-0.294	-0.323	-0.231	-0.349	-0.346	-0.368	-0.629
187	0.000	-0.189	-0.102	-0.079	-0.026	-0.132	0.298	-0.049	-0.487	1.788
305	0.000	-0.091	-0.103	-0.148	-0.088	-0.181	-0.224	-0.302	-0.381	-0.404
457	0.000	-0.098	-0.111	-0.139	-0.042	-0.117	-0.095	-0.200	-0.211	-0.216
616	0.000	-0.080	-0.086	-0.111	-0.027	-0.106	-0.074	-0.145	-0.181	-0.315
756	0.000	-0.078	-0.093	-0.118	-0.034	-0.110	-0.090	-0.171	-0.247	-0.378
914	0.000	-0.077	-0.053	-0.087	0.047	-0.041	0.077	0.829	1.650	-0.381

* Surface measurements missing.

Table F-7. Permanent strains in 704C1

Depth (mm)	Vertical Strain (%)						
	Load Repetition						
Surface*	0	500	1000	2500	5000	10900	23947
133	0.00	-1.23	-1.48	-1.73	-2.23	-2.52	-2.66
241	0.00	-0.36	-0.39	-0.60	-1.03	-1.56	-2.93
370	0.00	-0.19	-0.19	-0.31	-0.55	-0.69	-1.36
530	0.00	0.08	0.11	0.04	-0.11	-0.11	-0.42
687	0.00		0.02	-0.04	-0.19	-0.15	-0.39
830	0.00	0.03	0.05	-0.01	-0.13	-0.06	-0.26
983	0.00	0.06	0.08	0.03	-0.08	0.01	-0.18
Longitudinal Strain (%)							
Depth (mm)	Load Repetition						
	0	500	1000	2500	5000	10900	23947
76	0.00	0.17	0.14	0.06	-0.13	-0.17	0.13
191	0.00	0.26	0.25	0.21	0.11	0.19	0.24
292	0.00	0.34	0.34	0.31	0.21	0.28	0.14
448	0.00	0.24	0.22	0.19	0.10	0.19	0.04
613	0.00	0.23	0.22	0.18	0.09	0.19	0.03
762	0.00	0.22	0.20	0.16	0.07	0.17	0.01
Transverse Strain (%)							
Depth (mm)	Load Repetition						
	0	500	1000	2500	5000	10900	23947
76	0.00	0.46	0.35	0.50	0.55	0.94	0.85
191	0.00	0.36	0.35	0.33	0.31	0.51	0.45
292	0.00	0.42	0.41	0.38	0.31	0.41	0.25
448	0.00	0.27	0.25	0.22	0.14	0.25	0.08
613	0.00	0.25	0.23	0.20	0.11	0.22	0.04
762	0.00	0.25	0.23	0.19	0.10	0.20	0.02

* Surface measurement includes the asphalt layer and part of the base.

Table F-8. Permanent strains in 704C2

Depth (mm)	Vertical Strain (%)								
	Load Repetition								
	0	500	1000	2500	6000	13000	22930	57075	120000
Surface	0.00	(-1.85)	-2.16	-2.37	-2.47	-2.62	-2.73		-3.64
137	0.00	-0.74	-0.92	-1.36	-1.50	-2.05	-2.68	-3.12	-4.33
254	0.00	-0.33	-0.33	-0.51	-0.56	-0.83	-1.17	-1.32	-1.70
381	0.00	-0.27	-0.29	-0.52	-0.58	-0.83	-1.32	-1.47	-1.99
533	0.00	-0.14	-0.11	-0.27	-0.24	-0.35	-0.65	-0.62	-0.93
687	0.00	-0.10	-0.08	-0.22	-0.15	-0.19	-0.42	-0.33	-0.52
835	0.00	-0.09	-0.04	-0.17	-0.08	-0.10	-0.30	-0.19	-0.39
989	0.00	-0.08	-0.04	-0.16	-0.07	-0.08	-0.25	-0.14	-0.30
Depth (mm)	Longitudinal Strain (%)								
	Load Repetition								
	0	500	1000	2500	6000	13000	22930	57075	120000
76	0.00	-0.74	-0.92	-1.34	-1.48	-2.04	-2.68	-3.08	-4.30
197	0.00	-0.34	-0.34	-0.52	-0.57	-0.83	-1.18	-1.32	-1.73
311	0.00	-0.31	-0.34	-0.58	-0.62	-0.89	-1.37	-1.52	-2.11
451	0.00	-0.16	-0.14	-0.31	-0.27	-0.38	-0.69	-0.65	-1.00
616	0.00	-0.12	-0.09	-0.24	-0.16	-0.21	-0.44	-0.35	-0.56
759	0.00	-0.10	-0.05	-0.19	-0.09	-0.12	-0.32	-0.21	-0.42
911	0.00	-0.09	-0.04	-0.17	-0.08	-0.08	-0.26	-0.15	-0.31
Depth (mm)	Transverse Strain (%)								
	Load Repetition								
	0	500	1000	2500	6000	13000	22930	57075	120000
76									
197	0.00	0.05	0.03	-0.26	-0.21	-0.19	0.17		-0.34
311	0.00	0.04	0.08	0.02	0.10	0.15	0.10	0.27	0.19
451	0.00	0.00	0.03	-0.03	0.05	0.09	0.01	0.17	0.12
616	0.00	-0.04	-0.02	-0.09	-0.03	-0.01	-0.12	0.00	-0.07
759	0.00	-0.03	0.09	0.15	-0.23	1.06	-0.48	-0.41	-0.50
911	0.00	-0.05	-0.03	-0.10	-0.04	-0.02	-0.13	-0.03	-0.10

() Data in italic brackets were estimated using a power curve with collected data.

Table F-9. Permanent strain in 704C3

Depth (mm)	Vertical Strain (%)							
	Load Repetition							
	0	500	1000	6000	12000	25751	41800	81850
Surface*	0.00	-0.14	-0.57	-1.34	-1.82	-2.95	-3.86	-6.13
140								
256	0.00	-0.18	-0.26	-0.55	-0.89	-1.21	-1.66	-2.81
383	0.00	-0.08	-0.11	-0.21	-0.39	-0.50	-0.71	-1.34
537	0.00	-0.06	-0.09	-0.17	-0.34	-0.43	-0.60	-1.02
689	0.00	-0.07	-0.11	-0.11	-0.23	-0.24	-0.37	-0.58
838	0.00	-0.06	-0.11	-0.07	-0.16	-0.13	-0.20	-0.32
991	0.00	-0.06	-0.10	-0.06	-0.15	-0.11	-0.17	-0.28
Longitudinal Strain (%)								
Depth (mm)	Load Repetition							
	0	500	1000	6000	12000	25751	41800	81850
76								
203	0.00	0.104	0.106	0.118	0.093	0.044	0.114	-0.173
308	0.00	0.002	0.004	0.037	0.011	-0.042	0.001	-0.202
457	0.00	-0.007	0.001	0.027	-0.003	-0.074	-0.035	-0.180
616	0.00	-0.047	-0.070	-0.008	-0.038	-0.070	-0.059	-0.141
762	0.00	-0.047	-0.073	0.000	-0.023	-0.047	-0.016	-0.097
914								
Transverse Strain (%)								
Depth (mm)	Load Repetition							
	0	500	1000	6000	12000	25751	41800	81850
76								
203	0.00	0.124	0.150	0.181	0.172	0.463	0.674	1.611
308	0.00	0.047	0.047	0.119	0.070	0.245	0.343	1.147
457	0.00	0.022	0.023	0.085	0.021	0.129	0.156	0.277
616	0.00	-0.042	-0.074	-0.001	-0.081	0.011	-0.008	-0.008
762	0.00	-0.044	-0.081	-0.023	-0.109	-0.041	-0.081	-0.145
914	0.00	-0.042	-0.081	-0.033	-0.119	-0.067	-0.116	-0.200

* Surface measurement includes the asphalt layer and part of the base.

Table F-10. Permanent strain in 704C4

Depth (mm)	Vertical Strain (%)			
	0	1000	2500	5000
Surface	0.00	-0.19	0.26	1.77
137	0.00	-2.11	-2.87	-3.72
251	0.00	-0.52	-0.73	-0.95
379	0.00	-1.06	-1.42	-1.85
538	0.00	-0.76	-0.85	-1.04
692	0.00	-0.62	-0.78	-1.05
838	0.00	-0.80	-0.89	-0.99
991	0.00	-0.32	-0.39	-0.37
Depth (mm)	Longitudinal Strain (%)			
	0	1000	2500	5000
76	0.000	0.391	0.609	0.539
197	0.000	0.223	0.352	0.353
305	0.000	0.132	0.309	0.473
454	0.000	0.151	0.256	0.378
622	0.000	-0.052	-0.026	0.003
762	0.000	0.014	0.056	0.040
Depth (mm)	Transverse Strain (%)			
	0	1000	2500	5000
76	0.000	0.841	1.075	1.214
197	0.000	1.133	1.399	1.671
305	0.000	0.616	0.789	1.151
454	0.000	0.361	0.473	0.620
622	0.000	0.076	0.107	0.121
914	0.000	0.000	0.000	0.000

Table F-11. Permanent strain in 704C5

Depth (mm)	Surface*	Vertical Strain (%)						Longitudinal Strain (%)					
		0	500	1000	2500	5000	10000	25000	50000	117340	250000	505281	780122
132	0.000	-0.163	-0.325	-0.486	-0.646	-0.726	-0.964	-18.777	-1.747	-2.131	-3.549	-2.585	
243	0.000	-0.053	-0.080	-0.095	-0.366	-0.256	-0.564	-0.544	-0.754	-1.106	-1.529	-1.108	
378	0.000	0.025	0.013	0.016	-0.231	-0.095	-0.381	-0.325	-0.477	-0.779	-1.301	-0.975	
538	0.000	0.019	-0.001	0.008	-0.232	-0.093	-0.358	-0.294	-0.414	-0.693	-1.169	-0.624	
692	0.000	0.036	0.017	0.035	-0.187	-0.038	-0.266	-0.144	-0.201	-0.258	-0.925	-0.572	
840	0.000	-0.076	-0.102	-0.080	-0.299	-0.144	-0.359	-0.223	-0.256	-0.289	-0.943	-0.421	
991	0.000	-0.073	-0.101	-0.077	-0.290	-0.134	-0.266	-0.188	-0.183	-0.198	-0.815	-0.188	
Depth (mm)	Surface*	Vertical Strain (%)						Longitudinal Strain (%)					
		0	500	1000	2500	5000	10000	25000	50000	117340	250000	505281	780122
76	0.000	0.135	0.068	0.085	-0.063	-0.024	-0.154	-0.094	-0.147	-0.383	-0.666	-0.335	
187	0.000	0.170	0.106	0.129	-0.012	0.041	-0.081	0.005	-0.036	-0.265	-0.657	-0.337	
298	0.000	0.157	0.093	0.113	-0.027	0.031	-0.082	0.010	-0.040	-0.271	-0.628	-0.099	
457	0.000	0.168	0.095	0.122	-0.020	0.042	-0.070	0.065	0.057	0.066	-0.474	-0.043	
619	0.000	0.037	-0.044	-0.019	-0.161	-0.099	-0.215	-0.092	-0.122	-0.140	-0.748	-0.291	
765	0.000	0.035	-0.045	-0.018	-0.159	-0.094	-0.128	-0.072	-0.068	-0.076	-0.637	-0.057	
914	0.000												

* Surface measurement includes the asphalt layer and part of the base.

Table F-11. Permanent strain in 704C5 (continued)

Depth (mm)	0	500	1000	2500	Transverse Strain (%)						
					5000	10000	25000	50000	117340	250000	505281
76	0.000	0.053	0.108	0.114	-0.069	0.053	-0.112	-0.069	-0.115	-0.320	-0.567
187	0.000	0.066	0.101	0.113	-0.081	0.059	-0.132	-0.077	-0.134	-0.371	-0.771
298	0.000	0.051	0.075	0.087	-0.107	0.029	-0.151	-0.081	-0.127	-0.354	-0.730
457	0.000	0.039	0.055	0.072	-0.123	0.106	-0.154	-0.053	-0.071	-0.086	-0.643
619	0.000	-0.075	-0.077	-0.060	-0.263	-0.116	-0.305	-0.188	-0.224	-0.255	-0.882
765	0.000	-0.075	-0.083	-0.059	-0.255	-0.114	-0.216	-0.165	-0.164	-0.192	-0.785
914	0.000	-0.075	-0.083	-0.059	-0.255	-0.114	-0.216	-0.165	-0.164	-0.192	-0.165

Table F-12. Permanent strain in 704C6

Depth (mm) Surface*	0	500	1000	Vertical Strain (%)					
				2500	5000	8600	22500	50000	100500
132	0.000	-0.383	-0.527	-0.691	-0.719	-0.968	-1.370	-1.830	-3.012
246	0.000	-0.220	-0.159	-0.151	-0.160	-0.386	-0.576	-0.618	-0.932
381	0.000	-0.134	-0.166	-0.245	-0.226	-0.404	-0.587	-0.868	-1.424
537	0.000	-0.113	-0.137	-0.175	-0.110	-0.236	-0.306	-0.489	-0.914
686	0.000	-0.121	-0.149	-0.199	-0.135	-0.275	-0.338	-0.458	-0.848
835	0.000	-0.096	-0.121	-0.158	-0.080	-0.196	-0.222	-0.314	-0.598
991	0.000	-0.082	-0.104	-0.125	-0.031	-0.132	-0.129	-0.227	-0.249
Longitudinal Strain (%)									
Depth (mm)	0	500	1000	2500	5000	8600	20000	50000	100500
76	0.000	-0.390	-0.524	-0.703	-0.729	-0.987	-1.336	-1.805	-3.037
187	0.000	-0.223	-0.160	-0.168	-0.167	-0.392	-0.575	-0.610	-0.929
305	0.000	-0.138	-0.170	-0.272	-0.232	-0.417	-0.588	-0.852	-1.416
457	0.000	-0.122	-0.144	-0.215	-0.134	-0.273	-0.327	-0.480	-0.529
616	0.000	-0.126	-0.155	-0.222	-0.152	-0.297	-0.354	-0.455	-0.510
756	0.000	-0.100	-0.126	-0.172	-0.087	-0.205	-0.228	-0.309	-0.369
914	0.000	-0.084	-0.106	-0.132	-0.036	-0.138	-0.134	-0.226	-0.249
									-0.826

* Surface measurements missing.

Table F-12. Permanent deformation (mm) in 704C6 (continued)

Depth (mm)	Transverse Strain (%)						250100
	0	500	1000	2500	5000	8600	
76	0.000	-0.151	-0.180	-0.197	-0.142	-0.214	-0.225
187	0.000	-0.128	-0.069	-0.054	-0.017	-0.089	0.202
305	0.000	-0.063	-0.072	-0.103	-0.061	-0.126	-0.156
457	0.000	-0.064	-0.073	-0.091	-0.028	-0.077	-0.062
616	0.000	-0.056	-0.061	-0.078	-0.019	-0.074	-0.052
756	0.000	-0.056	-0.067	-0.085	-0.024	-0.079	-0.065
914	0.000	-0.049	-0.034	-0.056	0.030	-0.026	0.050

APPENDIX G: DYNAMIC DISPLACEMENT & STRAIN TEST RESULTS

TableG-1. Maximum peak vertical dynamic displacements in 704C1

704C1		Vertical Displacement (mm)						
Depth (mm)		133	241	370	530	687	830	983
Reps		Position 1						
0		-0.0844	-0.2696	-0.1968	-0.1081	-0.0842	-0.0585	-0.0303
500		-0.0742	-0.2788	-0.2064	-0.1098	-0.0854	-0.0576	-0.0282
1000		-0.0786	-0.3014	-0.2181	-0.1168	-0.0892	-0.0593	-0.03
2500		-0.0989	-0.3903	-0.2669	-0.1398	-0.1048	-0.0683	-0.0332
5000		-0.108	-0.4611	-0.2987	-0.1599	-0.1158	-0.075	-0.0349
10900		-0.1139	-0.5769	-0.3592	-0.1918	-0.1347	-0.086	-0.0389
23947		-0.1043	-0.5317	-0.3514	-0.1914	-0.1315	-0.0806	-0.0382
Reps		Position 2						
0		-0.1238	-0.4711	-0.3534	-0.1723	-0.1329	-0.0895	-0.0442
500		-0.1136	-0.4749	-0.3574	-0.1729	-0.1308	-0.0866	-0.0433
1000		-0.1207	-0.5274	-0.3889	-0.1859	-0.1402	-0.0913	-0.0451
2500		-0.1483	-0.6717	-0.4721	-0.2243	-0.1618	-0.1043	-0.051
5000		-0.1649	-0.8173	-0.5522	-0.2625	-0.1865	-0.1199	-0.0561
10900		-0.1712	-1.0153	-0.6562	-0.3154	-0.2186	-0.1392	-0.0629
23947		-0.1701	-0.9539	-0.6586	-0.3153	-0.2135	-0.1285	-0.0565
Reps		Position 3						
0		-0.117	-0.4599	-0.3515	-0.1646	-0.129	-0.0872	-0.0452
500		-0.1062	-0.4393	-0.3392	-0.1551	-0.1216	-0.0803	-0.0409
1000		-0.1157	-0.4989	-0.3727	-0.1731	-0.132	-0.0871	-0.0439
2500		-0.1369	-0.6091	-0.4428	-0.2015	-0.1505	-0.0996	-0.0495
5000		-0.1527	-0.7368	-0.5117	-0.2367	-0.1724	-0.112	-0.0557
10900		-0.1595	-0.9133	-0.6057	-0.282	-0.1992	-0.1265	-0.0612
23947		-0.1542	-0.8843	-0.6344	-0.2949	-0.2014	-0.1251	-0.0588

Table G-2. Maximum peak longitudinal displacements (A) in subgrade (TS704C1)

704C1		Longitudinal Displacement (mm)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0		-0.9304	-0.0781	-0.0313	-0.0272	-0.0197	-0.0174	-0.0163
500		-0.7489	-0.0789	-0.0293	-0.0242	-0.0208	-0.0193	-0.0172
1000		-0.6316	-0.0827	-0.0336	-0.0274	-0.0218	-0.0185	-0.0166
2500		-0.2416	-0.1116	-0.0409	-0.0304	-0.0243	-0.0199	-0.0176
5000		-0.6867	-0.1260	-0.0438	-0.0350	-0.0260	-0.0204	-0.0183
10900			-0.1692	-0.0543	-0.0422	-0.0292	-0.0209	-0.0198
23947		-0.5309	-0.1696	-0.0669	-0.0498	-0.0313	-0.0249	-0.0189
Reps		Position 2						
0		-0.9035	-0.1155	-0.0339	-0.0167	-0.0094	-0.0056	-0.0048
500		-1.1038	-0.1023	-0.0350	-0.0169	-0.0087	-0.0057	-0.0041
1000		-0.3825	-0.1197	-0.0395	-0.0213	-0.0110	-0.0074	-0.0050
2500		-0.7294	-0.1561	-0.0529	-0.0280	-0.0142	-0.0072	-0.0043
5000		-0.5386	-0.1894	-0.0607	-0.0359	-0.0165	-0.0086	-0.0050
10900		-1.0004	-0.2452	-0.0809	-0.0460	-0.0189	-0.0112	-0.0047
23947		-0.8101	-0.2608	-0.1063	-0.0585	-0.0261	-0.0122	-0.0086
Reps		Position 3						
0		-0.4237	-0.0984	-0.0307	-0.0143	-0.0092	-0.0053	-0.0033
500		-0.7344	-0.0868	-0.0300	-0.0138	-0.0088	-0.0059	-0.0036
1000		-0.6342	-0.1012	-0.0361	-0.0170	-0.0106	-0.0071	-0.0035
2500		-0.8313	-0.1323	-0.0471	-0.0215	-0.0119	-0.0069	-0.0043
5000		-0.6465	-0.1603	-0.0570	-0.0268	-0.0161	-0.0097	-0.0041
10900		-0.7839	-0.2011	-0.0733	-0.0367	-0.0201	-0.0120	-0.0047
23947		-1.0214	-0.2233	-0.0993	-0.0475	-0.0205	-0.0095	-0.0065

Table G-3. Maximum peak longitudinal displacements (B) in subgrade (TS704C1)

704C1		Longitudinal Displacement (mm)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0	1.2382	0.1281	0.0753	0.0409	0.0314	0.0208	0.0192	
500	0.9266	0.1378	0.0802	0.0433	0.0322	0.0207	0.019	
1000	1.504	0.1473	0.0874	0.0487	0.0334	0.0242	0.0202	
2500	1.6258	0.2089	0.112	0.0624	0.043	0.0279	0.0185	
5000	1.8982	0.2558	0.1341	0.0744	0.049	0.0313	0.0191	
10900		0.3185	0.1696	0.0959	0.0575	0.0372	0.0181	
23947	1.5887	0.3015	0.1827	0.0956	0.0578	0.0335	0.0196	
Reps		Position 2						
0	1.8551	0.2245	0.1245	0.0674	0.0497	0.0321	0.0189	
500	2.0997	0.2254	0.1279	0.0694	0.0519	0.0335	0.0183	
1000	2.287	0.2496	0.1423	0.0764	0.0546	0.0347	0.0177	
2500	2.4341	0.3526	0.1879	0.1	0.0656	0.0427	0.022	
5000	2.6373	0.4491	0.2281	0.1216	0.079	0.0505	0.0254	
10900	3.3517	0.5784	0.291	0.1561	0.097	0.0594	0.0301	
23947	2.2303	0.5673	0.3135	0.1625	0.0958	0.0583	0.026	
Reps		Position 3						
0	2.1945	0.2131	0.1199	0.0661	0.0493	0.0326	0.0191	
500	1.9902	0.2003	0.1163	0.0622	0.0468	0.0307	0.0178	
1000	2.0158	0.2331	0.1336	0.0702	0.0519	0.0332	0.0182	
2500	2.25	0.3143	0.171	0.088	0.0627	0.0392	0.0216	
5000	2.9816	0.4095	0.2083	0.1094	0.0712	0.0453	0.024	
10900	3.3644	0.5183	0.2661	0.1383	0.084	0.0521	0.0282	
23947	2.4352	0.537	0.2916	0.151	0.0922	0.0567	0.0282	

Table G-4. Maximum peak longitudinal displacements (C) in subgrade (TS704C1)

704C1		Longitudinal Displacement (mm)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0		-0.7206	-0.0211	-0.0195	-0.0162	-0.0141	-0.0138	-0.0131
500		-0.7489	-0.0211	-0.0217	-0.0183	-0.0150	-0.0151	-0.0123
1000		-0.6316	-0.0244	-0.0234	-0.0175	-0.0165	-0.0145	-0.0126
2500		-0.1560	-0.0349	-0.0286	-0.0181	-0.0157	-0.0140	-0.0136
5000		-0.6867	-0.0485	-0.0335	-0.0210	-0.0179	-0.0160	-0.0136
10900			-0.0545	-0.0396	-0.0250	-0.0213	-0.0158	-0.0136
23947		-0.5309	-0.0417	-0.0321	-0.0221	-0.0201	-0.0154	-0.0161
Reps		Position 2						
0		-0.8044	-0.0253	-0.0190	-0.0107	-0.0082	-0.0056	-0.0029
500		-1.1038	-0.0279	-0.0225	-0.0121	-0.0082	-0.0057	-0.0027
1000		-0.3825	-0.0306	-0.0242	-0.0133	-0.0103	-0.0074	-0.0025
2500		-0.7294	-0.0484	-0.0345	-0.0170	-0.0122	-0.0057	-0.0028
5000		-0.4841	-0.0656	-0.0445	-0.0241	-0.0154	-0.0086	-0.0045
10900		-1.0004	-0.0797	-0.0559	-0.0309	-0.0181	-0.0112	-0.0040
23947		-0.8101	-0.0820	-0.0462	-0.0294	-0.0211	-0.0107	-0.0086
Reps		Position 3						
0		-0.4237	-0.0243	-0.0211	-0.0126	-0.0092	-0.0053	-0.0025
500		-0.5348	-0.0249	-0.0207	-0.0126	-0.0088	-0.0059	-0.0028
1000		-0.6342	-0.0305	-0.0237	-0.0140	-0.0106	-0.0071	-0.0022
2500		-0.6451	-0.0443	-0.0320	-0.0166	-0.0106	-0.0069	-0.0031
5000		-0.6465	-0.0608	-0.0411	-0.0244	-0.0161	-0.0097	-0.0034
10900		-0.7839	-0.0763	-0.0521	-0.0308	-0.0201	-0.0120	-0.0047
23947		-1.0214	-0.0681	-0.0528	-0.0295	-0.0189	-0.0065	-0.0064

Table G-5. Maximum peak transverse displacements in subgrade (TS704C1)

704C1		Transverse Displacement (mm)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0	4.7268	0.0132	0.0239	0.0208	0.0158	0.0131	0.0108	
500	2.8524	0.0183	0.0302	0.0241	0.0172	0.0115	0.0101	
1000	0.0380	0.0177	0.0274	0.0227	0.0176	0.0143	0.0128	
2500	6.1852	0.0343	0.0374	0.0234	0.0188	0.0168	0.0139	
5000	3.5605	0.0490	0.0420	0.0310	0.0208	0.0148	0.0127	
10900	6.2700	0.0630	0.0521	0.0386	0.0242	0.0180	0.0112	
23947	4.9484	0.0478	0.0540	0.0372	0.0246	0.0151	0.0124	
Reps		Position 2						
0	6.6049	0.1223	0.0866	0.0520	0.0381	0.0249	0.0185	
500	2.8984	0.1177	0.0871	0.0530	0.0366	0.0246	0.0179	
1000	0.0974	0.1334	0.0941	0.0514	0.0358	0.0245	0.0157	
2500	8.7289	0.1861	0.1178	0.0722	0.0460	0.0293	0.0171	
5000	6.2347	0.2358	0.1344	0.0842	0.0501	0.0297	0.0218	
10900	3.4985	0.2759	0.1596	0.0974	0.0570	0.0359	0.0251	
23947	0.4161	0.2580	0.1598	0.1013	0.0557	0.0324	0.0203	
Reps		Position 3						
0		0.1024	0.0831	0.0512	0.0394	0.0265	0.0190	
500		0.0926	0.0815	0.0509	0.0378	0.0271	0.0160	
1000		0.1128	0.0890	0.0521	0.0402	0.0271	0.0174	
2500		0.1375	0.1125	0.0675	0.0480	0.0310	0.0216	
5000		0.1538	0.1222	0.0769	0.0499	0.0333	0.0232	
10900		0.1905	0.1445	0.0941	0.0589	0.0372	0.0234	
23947		0.1599	0.1419	0.0963	0.0573	0.0340	0.0229	

Table G-6. Maximum peak vertical displacements in subgrade (TS704C2)

704C2		Vertical Displacement (mm)						
Depth (mm)		137	254	381	533	687	835	989
Reps		Position 1						
0	-0.0052	-0.0023	-0.0048	-0.0051	-0.0060	-0.0066	-0.0079	
500	-0.1348	-0.1044	-0.1048	-0.1051	-0.1042	-0.1049	-0.1049	
1000	-0.0046	-0.0049	-0.0048	-0.0052	-0.0059	-0.0057	-0.0050	
2500	-0.0044	-0.0046	-0.0050	-0.0049	-0.0051	-0.0051	-0.0055	
6000	-0.0048	-0.0048	-0.0047	-0.0044	-0.0089	-0.0071	-0.0059	
13000			-0.0043	-0.0048	-0.0071	-0.0045	-0.0051	
22931	-0.0485	-0.0050	-0.0048	-0.0046	-0.0049	-0.0053	-0.0046	
57075	-0.0049	-0.0045	-0.0054	-0.0059	-0.0074	-0.0047	-0.0052	
125581	-0.0053	-0.0046	-0.0047	-0.0043	-0.0065	-0.0043	-0.0044	
Reps		Position 2						
0	-0.1489	-0.1294	-0.1272	-0.1271	-0.1263	-0.1273	-0.1266	
500	-0.0025	-0.0012	-0.0016	-0.0032	-0.0040	-0.0039	-0.0050	
1000	-0.0024	-0.0011	-0.0010	-0.0038	-0.0045	-0.0040	-0.0036	
2500	0.0043	-0.0005	-0.0016	-0.0019	-0.0047	-0.0037	-0.0047	
6000	-0.0023	-0.0007	-0.0008	-0.0015	-0.0082	-0.0051	-0.0086	
13000	-0.0018	-0.0002	-0.0004	-0.0017	-0.0070	-0.0052	-0.0053	
22931	-0.0017	-0.0009	-0.0011	-0.0016	-0.0039	-0.0037	-0.0037	
57075	-0.0011	-0.0010	-0.0010	-0.0017	-0.0148	-0.0079	-0.0077	
125581	-0.0012	-0.0054	-0.0006	-0.0011	-0.0077	-0.0010	-0.0054	
Reps		Position 3						
0	-0.1679	-0.1296	-0.1305	-0.1299	-0.1275	-0.1273	-0.1283	
500	0.1048	-0.0012	-0.0018	-0.0016	-0.0035	-0.0030	-0.0056	
1000	-0.0031	-0.0012	-0.0015	-0.0037	-0.0044	-0.0035	-0.0046	
2500	-0.0035	-0.0010	-0.0019	-0.0027	-0.0051	-0.0023	-0.0039	
6000	-0.0031	-0.0009	-0.0010	-0.0017	-0.0078	-0.0061	-0.0081	
13000	-0.0011	-0.0004	-0.0010	-0.0016	-0.0051	-0.0049	-0.0052	
22931	-0.0007	-0.0005	-0.0007	-0.0013	-0.0059	-0.0039	-0.0070	
57075	-0.0004	-0.0012	-0.0006	-0.0163	-0.0576	-0.0351	-0.0183	
125581	-0.0014	-0.0210	-0.0002	-0.0014	-0.0125	-0.0027	-0.0055	

Table G-7. Maximum peak longitudinal displacements (A) in subgrade (TS704C2)

704C2		Longitudinal Displacement (mm)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	-5.7560	-0.0257	-0.0132	-0.0143	-0.0157	-0.0180	-0.0154	
500	-0.1207	-0.0944	-0.0943	-0.0939	-0.0938	-0.0937	-0.0931	
1000	-4.3111	-0.0191	-0.0165	-0.0163	-0.0165	-0.0171	-0.0155	
2500	-4.9409	-0.0174	-0.0159	-0.0165	-0.0142	-0.0162	-0.0167	
6000	-5.4759	-0.0189	-0.0150	-0.0160	-0.0150	-0.0151	-0.0169	
13000	-11.2566	-1.8722	-0.0154	-0.0143	-0.0146	-0.0150	-0.0154	
22931	-0.5076	-0.0164	-0.0148	-0.0155	-0.0136	-0.0153	-0.0152	
57075	-0.0293	-0.0177	-0.0118	-0.0142	-0.0154	-0.0140	-0.0138	
125581		-0.0177	-0.0190	-0.0158	-0.0129	-0.0146	-0.0167	
Reps		Position 2						
0	-0.1239	-0.1078	-0.1058	-0.1066	-0.1059	-0.1066	-0.1065	
500	-7.0992	-0.0053	-0.0060	-0.0046	-0.0043	-0.0027	-0.0051	
1000	-11.0241	-0.0066	-0.0123	-0.0064	-0.0026	-0.0039	-0.0011	
2500	-6.1739	-0.0044	-0.0084	-0.0031	-0.0041	-0.0055	-0.0016	
6000	-6.4646	-0.0038	-0.0051	-0.0029	-0.0017	-0.0029	-0.0022	
13000	-0.4490	-0.0016	-0.0012	-0.0021	-0.0015	-0.0011	-0.0007	
22931	-0.8125	-0.0036	-0.0017	-0.0014	-0.0015	-0.0013	-0.0007	
57075	-0.0117	-0.0060	-0.0089	-0.0002	-0.0025	-0.0013	-0.0013	
125581		-0.0221	-0.0019	-0.0006	-0.0022	-0.0019	-0.0017	
Reps		Position 3						
0	-0.1388	-0.1080	-0.1086	-0.1089	-0.1071	-0.1066	-0.1081	
500	-7.2498	-0.0041	-0.0059	-0.0019	-0.0032	-0.0040	-0.0021	
1000	-5.4846	-0.0066	-0.0054	-0.0031	-0.0028	-0.0027	-0.0040	
2500	-6.4089	-0.0048	-0.0065	-0.0031	-0.0023	-0.0021	-0.0033	
6000	-4.3546	-0.0039	-0.0038	-0.0031	-0.0032	-0.0014	-0.0024	
13000	-1.8444	-0.0030	-0.0020	-0.0017	-0.0019	-0.0013	-0.0007	
22931	-0.7484	-0.0029	-0.0022	-0.0021	-0.0013	-0.0012	-0.0019	
57075		-0.0036	-0.0027	-0.0017	-0.0021	-0.0026	-0.0033	
125581		-0.0361	-0.0011	-0.0014	-0.0015	-0.0028	-0.0012	

Table G-8. Maximum peak longitudinal displacements (B) in subgrade (TS704C2)

704C2		Longitudinal Displacement (mm)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	6.8331	0.0201	0.0229	0.0226	0.0216	0.0204	0.0210	
500	-0.0715	-0.0478	-0.0456	-0.0471	-0.0462	-0.0467	-0.0472	
1000	5.7674	0.0224	0.0259	0.0219	0.0197	0.0217	0.0212	
2500	4.8169	0.0226	0.0223	0.0185	0.0224	0.0219	0.0219	
6000	2.9126	0.0239	0.0211	0.0182	0.0217	0.0204	0.0216	
13000	1.2382	4.4759	0.0206	0.0214	0.0212	0.0217	0.0205	
22931	0.4979	0.0209	0.0200	0.0208	0.0204	0.0217	0.0209	
57075	0.0201	0.0222	0.0224	0.0218	0.0205	0.0216	0.0209	
125581	2.4813	0.0201	0.0203	0.0216	0.0211	0.0205	0.0200	
Reps		Position 2						
0	-0.0825	-0.0650	-0.0635	-0.0640	-0.0638	-0.0632	-0.0650	
500	10.0705	0.0043	0.0167	0.0140	0.0099	0.0068	0.0075	
1000	7.1594	0.0047	0.0190	0.0125	0.0157	0.0075	0.0073	
2500	9.0187	0.0064	0.0200	0.0189	0.0136	0.0108	0.0094	
6000	6.8200	0.0123	0.0303	0.0297	0.0177	0.0137	0.0097	
13000	0.8112	0.0060	0.0297	0.0331	0.0180	0.0130	0.0121	
22931	0.5258	0.0099	0.0238	0.0297	0.0139	0.0113	0.0095	
57075		0.0115	0.0152	0.0505	0.0249	0.0198	0.0168	
125581	2.2161	0.0143	0.0253	0.0323	0.0257	0.0177	0.0118	
Reps		Position 3						
0	-0.0945	-0.0647	-0.0640	-0.0644	-0.0652	-0.0645	-0.0648	
500	7.7383	0.0084	0.0175	0.0153	0.0135	0.0105	0.0078	
1000	6.5437	0.0049	0.0219	0.0229	0.0130	0.0135	0.0089	
2500	7.1667	0.0100	0.0302	0.0281	0.0167	0.0156	0.0096	
6000	6.0240	0.0165	0.0379	0.0389	0.0238	0.0219	0.0137	
13000	0.3435	0.0086	0.0401	0.0415	0.0239	0.0168	0.0137	
22931	0.7577	0.0112	0.0295	0.0321	0.0205	0.0125	0.0097	
57075	8.2708	0.0700	0.1013	0.1175	0.0560	0.0340	0.0214	
125581	3.0639	0.0490	0.0413	0.0435	0.0340	0.0183	0.0124	

Table G-9. Maximum peak longitudinal displacements (C) in subgrade (TS704C2)

704C2		Longitudinal Displacement (mm)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	-5.7560	-0.0226	-0.0110	-0.0085	-0.0107	-0.0113	-0.0104	
500	-0.1207	-0.0939	-0.0928	-0.0919	-0.0931	-0.0915	-0.0923	
1000	-2.7490	-0.0191	-0.0103	-0.0089	-0.0089	-0.0122	-0.0077	
2500	-4.9409	-0.0173	-0.0090	-0.0098	-0.0091	-0.0094	-0.0105	
6000	-4.8014	-0.0189	-0.0081	-0.0077	-0.0085	-0.0092	-0.0111	
13000	-11.2566	-1.8722	-0.0120	-0.0093	-0.0091	-0.0090	-0.0097	
22931	-0.5076	-0.0164	-0.0106	-0.0076	-0.0087	-0.0093	-0.0087	
57075	-0.0293	-0.0177	-0.0106	-0.0039	-0.0138	-0.0104	-0.0065	
125581		-0.0132	-0.0098	-0.0063	-0.0101	-0.0089	-0.0100	
Reps		Position 2						
0	-0.1234	-0.1042	-0.1025	-0.1031	-0.1023	-0.1032	-0.1029	
500	-6.1993	-0.0049	-0.0023	-0.0031	-0.0031	-0.0027	-0.0051	
1000	-11.0241	-0.0044	-0.0037	-0.0033	-0.0002	-0.0039	0.0002	
2500	-5.3688	-0.0013	-0.0039	-0.0022	-0.0015	-0.0055	0.0016	
6000	-4.8532	-0.0004	-0.0010	-0.0022	-0.0017	-0.0026	0.0000	
13000	-0.4359	-0.0016	0.0020	-0.0002	-0.0005	-0.0005	0.0005	
22931	-0.8125	-0.0024	0.0012	0.0003	0.0000	-0.0001	0.0006	
57075	-0.0048	-0.0060	-0.0089	0.0022	0.0001	0.0022	0.0018	
125581		-0.0035	0.0013	0.0043	0.0024	-0.0002	0.0006	
Reps		Position 3						
0	-0.1360	-0.1041	-0.1034	-0.1027	-0.1020	-0.1025	-0.1025	
500	-7.2498	-0.0030	-0.0045	-0.0011	-0.0013	-0.0030	-0.0021	
1000	-2.6185	-0.0056	-0.0042	0.0008	-0.0021	-0.0012	-0.0030	
2500	-6.4089	-0.0048	-0.0038	-0.0001	0.0008	-0.0011	-0.0010	
6000	-4.3546	-0.0018	-0.0010	0.0003	0.0015	0.0001	0.0012	
13000	-1.8444	-0.0013	-0.0010	0.0008	0.0002	0.0006	0.0013	
22931	-0.7484	-0.0024	-0.0010	0.0008	0.0003	0.0006	-0.0005	
57075		-0.0008	-0.0014	0.0034	0.0012	0.0022	0.0016	
125581		0.0171	0.0010	0.0020	0.0013	-0.0010	-0.0012	

Table G-10. Maximum peak transverse displacements in subgrade (TS704C2)

704C2		Transverse Displacement (mm)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	0.0631	0.0130	0.0026	0.0124	0.0082	0.0087	0.0093	
500	-0.0785	-0.0524	-0.0515	-0.0538	-0.0527	-0.0518	-0.0530	
1000	0.0241	0.0022	0.0019	0.0022	0.0020	0.0055	0.0072	
2500	0.0030	0.0024	0.0018	0.0015	0.0024	0.0049	0.0072	
6000	0.0497	0.0047	0.0018	0.0224	0.0081	0.0092	0.0100	
13000	0.0508	7.1439	0.0017	0.0040	0.0055	0.0062	0.0075	
22931	0.0393	0.0025	0.0022	0.0020	0.0021	0.0026	0.0050	
57075	0.0006	0.0021	0.0022	0.0023	0.0012	0.0055	0.0074	
125581	0.0032	0.0015	0.0017	0.0018	0.0110	0.0012	0.0040	
Reps		Position 2						
0	-0.0807	-0.0627	-0.0622	-0.0613	-0.0625	-0.0623	-0.0629	
500	0.0382	0.0020	0.0018	0.0015	0.0021	0.0025	0.0058	
1000	0.0424	0.0015	0.0019	0.0025	0.0007	0.0018	0.0044	
2500	0.0369	0.0018	0.0018	0.0024	0.0015	0.0026	0.0071	
6000	0.0363	0.0033	0.0011	0.0027	0.0084	0.0088	0.0114	
13000	0.0049	0.0012	0.0008	0.0007	0.0033	0.0057	0.0123	
22931	0.0189	0.0009	0.0003	0.0004	0.0006	0.0013	0.0045	
57075	0.0219	0.0028	0.0007	0.0195	0.0208	0.0173	0.0151	
125581	0.0001	0.0224	0.0004	0.0003	0.0151	0.0003	0.0073	
Reps		Position 3						
0	-0.0937	-0.0637	-0.0618	-0.0625	-0.0625	-0.0620	-0.0617	
500	0.3378	0.0023	0.0025	0.0026	0.0014	0.0031	0.0026	
1000	0.0596	0.0020	0.0012	0.0018	0.0021	0.0011	0.0033	
2500	0.0565	0.0015	0.0009	0.0014	0.0010	0.0037	0.0046	
6000	0.0640	0.0018	0.0017	0.0013	0.0035	0.0108	0.0081	
13000	0.0567	0.0012	0.0012	0.0008	0.0008	0.0069	0.0066	
22931	0.0624	0.0007	0.0003	0.0012	0.0014	0.0069	0.0064	
57075	0.1447	0.1902	0.2363	0.1918	0.0933	0.0451	0.0248	
125581	0.0520	0.0137	0.0002	0.0002	0.0229	0.0016	0.0049	

Table G-11. Maximum peak vertical displacements in subgrade (TS704C3)

704C3		Vertical Displacement (mm)						
Depth (mm)		140	256	383	537	689	838	991
Reps		Position 1						
0	0.3384	-1.2603	-0.3711	-0.9977	-0.7298	0.3780	1.0527	
500	-0.0045	-0.0046	-0.0039	-0.0076	-0.0069	-0.0075	-0.0068	
1000	-0.0677	-0.1994	-0.1421	-0.0689	-0.0512	-0.0304	-0.0189	
2500	-0.0839	-0.2755	-0.2186	-0.0968	-0.0702	-0.0347	-0.0210	
6000	-0.0491	-0.0280	-0.0566	-0.0416	-0.0345	-0.0220	-0.0124	
12000	-0.0047	-0.0047	-0.0364	-0.0373	-0.0282	-0.0178	-0.0111	
25750	-0.0051	-0.0052	-0.0056	-0.0221	-0.0157	-0.0143	-0.0076	
41800	-0.0049	-0.0040	-0.0109	-0.0419	-0.0245	-0.0164	-0.0102	
81850	-0.0044	-0.0036	-0.1070	-0.0715	-0.0296	-0.0176	-0.0085	
Reps		Position 2						
0	0.1037	0.0320	0.8157	-0.0458	-0.8366	0.6873	-1.0681	
500	0.0000	-0.0008	-0.0031	-0.0113	-0.0135	-0.0114	-0.0065	
1000	-0.1089	-0.2973	-0.2543	-0.1116	-0.0812	-0.0449	-0.0263	
2500	-0.1220	-0.4192	-0.3283	-0.1424	-0.0919	-0.0505	-0.0277	
6000	-0.0096	-0.0530	-0.0807	-0.0580	-0.0456	-0.0298	-0.0168	
12000	-0.0066	-0.0371	-0.0778	-0.0600	-0.0506	-0.0276	-0.0159	
25750	-0.0004	-0.0022	-0.0184	-0.0426	-0.0271	-0.0232	-0.0124	
41800	-0.0004	-0.0020	-0.0265	-0.0478	-0.0368	-0.0242	-0.0112	
81850	-0.0001	-0.0012	-0.1376	-0.1055	-0.0508	-0.0276	-0.0124	
Reps		Position 3						
0	0.0360	0.2588	0.0497	0.0668	-0.5230	1.5033	0.8232	
500	-0.0006	-0.0011	-0.0062	-0.0122	-0.0137	-0.0120	-0.0080	
1000	-0.0981	-0.3129	-0.2094	-0.0971	-0.0716	-0.0410	-0.0235	
2500	-0.0924	-0.2848	-0.2372	-0.1155	-0.0841	-0.0442	-0.0258	
6000	-0.0084	-0.0331	-0.0637	-0.0446	-0.0367	-0.0265	-0.0160	
12000	-0.0183	-0.0760	-0.0811	-0.0665	-0.0485	-0.0311	-0.0169	
25750	-0.0007	-0.0007	-0.0103	-0.0424	-0.0291	-0.0253	-0.0108	
41800	-0.0001	-0.0011	-0.0037	-0.0426	-0.0278	-0.0238	-0.0123	
81850	-0.0003	-0.0016	-0.0645	-0.0626	-0.0384	-0.0218	-0.0120	

Table G-12. Maximum peak longitudinal displacements (A) in subgrade (TS704C3)

704C3		Longitudinal Displacement (mm)						
Depth (mm)		76	203	308	457	616	762	914
Reps		Position 1						
0		-2.2909	-0.3691	-1.6736	-1.1804	-1.3679	0.0270	
500	-2.4467	-0.0384	-0.0311	-0.0206	-0.0149	-0.0160	-0.0091	
1000	-3.5729	-0.0415	-0.0321	-0.0235	-0.0169	-0.0157	-0.0113	
2500	-3.3396	-0.0490	-0.0385	-0.0266	-0.0218	-0.0162	0.0021	
6000		-0.0583	-0.0470	-0.0296	-0.0201	-0.0153	-0.0114	
12000	-2.3458	-0.0713	-0.0551	-0.0350	-0.0230	-0.0149	-0.0137	
25750		-0.0973	-0.0842	-0.0384	-0.0278	-0.0171	-0.0163	
41800		-0.1055	-0.0993	-0.0569	-0.0318	-0.0173	-0.0157	
81850		-0.1320	-0.1605	-0.1007	-0.0741	-0.0189	-0.0146	
Reps		Position 2						
0	-5.0694	-0.4664	-2.5965	-1.7428	-2.2974	-0.0598	-1.1046	
500	-2.4512	-0.0491	-0.0312	-0.0137	-0.0058	-0.0038	-0.0093	
1000	-5.1858	-0.0586	-0.0390	-0.0154	-0.0101	-0.0046	-0.0113	
2500	-5.5198	-0.0746	-0.0497	-0.0195	-0.0117	-0.0076	0.0019	
6000	-6.2777	-0.0903	-0.0603	-0.0254	-0.0134	-0.0056	0.0018	
12000	-6.1761	-0.1087	-0.0778	-0.0309	-0.0152	-0.0075	0.0003	
25750		-0.1487	-0.1023	-0.0516	-0.0259	-0.0100	-0.0053	
41800	-0.9363	-0.1678	-0.1494	-0.0677	-0.0301	-0.0123	-0.0039	
81850		-0.2137	-0.2312	-0.1190	-0.0916	-0.0128	-0.0063	
Reps		Position 3						
0	-0.4496	-1.0256	-2.1082	-1.6644	-2.3431	-1.3466	-1.2942	
500	-3.1490	-0.0483	-0.0293	-0.0115	-0.0071	-0.0045	-0.0014	
1000		-0.0528	-0.0310	-0.0133	-0.0088	-0.0038	-0.0164	
2500		-0.0698	-0.0469	-0.0174	-0.0099	-0.0093	0.0026	
6000	-5.0339	-0.0814	-0.0559	-0.0194	-0.0111	-0.0049	0.0007	
12000	-5.8627	-0.0954	-0.0681	-0.0229	-0.0113	-0.0056	-0.0043	
25750	-4.4936	-0.1367	-0.1100	-0.0396	-0.0194	-0.0108	-0.0034	
41800		-0.1520	-0.1312	-0.0520	-0.0242	-0.0094	-0.0080	

81850	-4.4481	-0.1898	-0.2028	-0.0967	-0.0795	-0.0119	-0.0058
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Table G-13. Maximum peak longitudinal displacements (B) in subgrade (TS704C3)

704C3		Longitudinal Displacement (mm)						
Depth (mm)		76	203	308	457	616	762	914
Reps		Position 1						
0		-2.0988	0.4406	-1.0343	-0.9968	-0.1803	1.4528	
500	1.1154	0.0200	0.0203	0.0207	0.0206	0.0205	0.0242	
1000	0.4083	0.1174	0.0898	0.0447	0.0289	0.0210	0.0235	
2500	0.8734	0.1583	0.1133	0.0561	0.0313	0.0198	0.0487	
6000	0.5599	0.1717	0.1151	0.0526	0.0298	0.0215	0.0223	
12000	1.1989	0.1244	0.1257	0.0604	0.0322	0.0201	0.0217	
25750	1.7431	0.0288	0.0958	0.0414	0.0201	0.0195	0.0211	
41800		0.1375	0.1570	0.0833	0.0400	0.0188	0.0205	
81850	1.5639	0.4824	0.5144	0.1468	0.0212	0.0208	0.0212	
Reps		Position 2						
0	1.9400	1.3391	1.8631	0.9252	0.2620	2.3551	-0.6138	
500	1.6659	0.0014	0.0158	0.0216	0.0230	0.0156	0.0055	
1000	1.6840	0.2031	0.1410	0.0720	0.0463	0.0258	0.0014	
2500	1.2903	0.2656	0.1774	0.0872	0.0546	0.0280	0.0292	
6000	0.8930	0.2753	0.1799	0.0916	0.0546	0.0281	0.0339	
12000	0.4612	0.2973	0.2127	0.1083	0.0642	0.0289	0.0185	
25750	2.7995	0.0954	0.1545	0.1075	0.0500	0.0265	0.0107	
41800		0.1786	0.2565	0.1220	0.0617	0.0293	0.0128	
81850	1.1236	0.6173	0.7169	0.2433	0.0413	0.0366	0.0107	
Reps		Position 3						
0	0.1100	1.6906	1.2631	0.9952	0.7526	2.3694	2.2315	
500	0.6533	0.0000	0.0239	0.0290	0.0208	0.0135	0.0084	
1000	0.7885	0.1993	0.1347	0.0674	0.0430	0.0243	-0.0023	
2500	0.8143	0.2415	0.1588	0.0780	0.0446	0.0227	0.0545	
6000	1.2544	0.2041	0.1607	0.0843	0.0477	0.0252	0.0175	
12000	0.9253	0.3249	0.2048	0.1071	0.0594	0.0277	0.0134	
25750	2.8819	0.0710	0.1566	0.1126	0.0544	0.0255	0.0126	

41800		0.0746	0.2001	0.1239	0.0523	0.0285	0.0076
81850	1.8788	0.2287	0.5056	0.1895	0.0280	0.0272	0.0103

Table G-14. Maximum peak longitudinal displacements (C) in subgrade (TS704C3)

704C3		Longitudinal Displacement (mm)						
Depth (mm)		76	203	308	457	616	762	914
Reps		Position 1						
0		-2.2668	-0.3691	-1.2801	-1.0729	-1.3679	0.0270	
500	-2.4467	-0.0384	-0.0311	-0.0206	-0.0149	-0.0144	-0.0027	
1000	-3.5729	-0.0415	-0.0321	-0.0235	-0.0169	-0.0127	-0.0049	
2500	-3.3396	-0.0490	-0.0385	-0.0266	-0.0218	-0.0127	0.0211	
6000		-0.0583	-0.0470	-0.0296	-0.0201	-0.0143	-0.0010	
12000	-2.3458	-0.0713	-0.0551	-0.0350	-0.0230	-0.0149	-0.0095	
25750		-0.0973	-0.0842	-0.0384	-0.0278	-0.0171	-0.0163	
41800		-0.1055	-0.0993	-0.0569	-0.0318	-0.0173	-0.0155	
81850		-0.1320	-0.1605	-0.1007	-0.0741	-0.0189	-0.0146	
Reps		Position 2						
0	-5.0694	-0.4664	-2.5965	-1.7428	-2.2974	-0.0598	-0.8524	
500	-2.4512	-0.0491	-0.0312	-0.0137	-0.0058	-0.0038	-0.0093	
1000	-5.1858	-0.0586	-0.0390	-0.0154	-0.0101	-0.0046	-0.0113	
2500	-5.5198	-0.0746	-0.0497	-0.0195	-0.0117	-0.0076	0.0090	
6000	-6.2777	-0.0903	-0.0603	-0.0254	-0.0134	-0.0056	0.0122	
12000	-6.1761	-0.1087	-0.0778	-0.0309	-0.0152	-0.0075	0.0010	
25750		-0.1487	-0.1023	-0.0516	-0.0259	-0.0100	-0.0053	
41800	-0.9363	-0.1678	-0.1494	-0.0677	-0.0301	-0.0123	-0.0039	
81850		-0.2137	-0.2312	-0.1190	-0.0916	-0.0128	-0.0063	
Reps		Position 3						
0	-0.2133	-1.0256	-2.1082	-1.6644	-2.3431	-1.3466	-1.2942	
500	-3.1490	-0.0483	-0.0293	-0.0115	-0.0071	-0.0045	-0.0014	
1000		-0.0528	-0.0310	-0.0133	-0.0088	-0.0038	-0.0164	
2500		-0.0698	-0.0469	-0.0174	-0.0099	-0.0093	0.0243	
6000	-5.0339	-0.0814	-0.0559	-0.0194	-0.0111	-0.0049	0.0030	
12000	-5.8627	-0.0954	-0.0681	-0.0229	-0.0113	-0.0056	-0.0043	
25750	-4.4936	-0.1367	-0.1100	-0.0396	-0.0194	-0.0108	-0.0034	

41800		-0.1520	-0.1312	-0.0520	-0.0242	-0.0094	-0.0080
81850	-4.4481	-0.1898	-0.2028	-0.0967	-0.0795	-0.0119	-0.0058

Table G-15. Maximum peak transverse displacements in subgrade (TS704C3)

704C3		Transverse Displacement (mm)						
Depth (mm)		76	203	308	457	616	762	914
Reps		Position 1						
0		-1.7983	0.9134	-1.0645	-0.8830	0.1199	1.1731	
500	4.6083	0.0062	0.0156	0.0172	0.0138	0.0085	0.0057	
1000	5.0642	0.0197	0.0313	0.0259	0.0219	0.0114	0.0082	
2500	0.0109	0.0331	0.0393	0.0300	0.0204	0.0126	0.0080	
6000	0.0110	0.0280	0.0417	0.0317	0.0249	0.0152	0.0072	
12000	0.0143	0.0250	0.0478	0.0367	0.0263	0.0121	0.0065	
25750	0.0091	0.0113	0.0524	0.0385	0.0297	0.0141	0.0076	
41800	0.0159	0.0325	0.0651	0.0587	0.0346	0.0148	0.0077	
81850	0.0111	0.0735	0.0377	0.0834	0.0402	0.0152	0.0099	
Reps		Position 2						
0		1.0300	1.9164	0.6764	0.1116	0.9681	-0.2732	
500	6.3043	0.0335	0.0397	0.0321	0.0277	0.0133	0.0076	
1000	8.6976	0.0979	0.0742	0.0521	0.0396	0.0183	0.0101	
2500	0.1627	0.1186	0.0962	0.0600	0.0452	0.0211	0.0106	
6000	1.1012	0.1406	0.1074	0.0671	0.0492	0.0229	0.0102	
13000	0.2287	0.1494	0.1234	0.0785	0.0565	0.0246	0.0134	
22931	0.0791	0.1481	0.1123	0.0959	0.0573	0.0235	0.0116	
57075	0.2194	0.1960	0.1691	0.1138	0.0682	0.0270	0.0119	
125581	1.0385	0.3172	0.2153	0.1806	0.0935	0.0322	0.0145	
Reps		Position 3						
0		1.3446	1.2215	0.7389	0.5699	1.1477	1.1428	
500		0.0413	0.0432	0.0287	0.0261	0.0142	0.0107	
1000		0.0878	0.0727	0.0468	0.0376	0.0192	0.0111	
2500	0.0955	0.1000	0.0838	0.0584	0.0460	0.0206	0.0117	
6000	0.1774	0.1116	0.0947	0.0614	0.0433	0.0204	0.0135	

13000	0.1154	0.1285	0.1086	0.0703	0.0491	0.0215	0.0143
22931	0.2307	0.1310	0.1218	0.0852	0.0537	0.0254	0.0112
57075	0.2396	0.1539	0.1429	0.0984	0.0577	0.0229	0.0093
125581	0.1359	0.2307	0.2039	0.1291	0.0756	0.0247	0.0118

Table G-16. Maximum peak vertical displacements in subgrade (TS704C4)

704C4		Vertical Displacement (mm)					
Depth (mm)	137	251	379	538	692	838	991
Reps		Position 1					
0	-0.0828	-0.0157	-0.4460	-0.2786	-0.1362	-0.0994	-0.0677
1000	-0.0984	-0.0058	-0.5339	-0.3987	-0.2735	-0.0984	-0.0692
2500	-0.1360	-0.0061	-0.7016	-0.5789	-0.2925	-0.1238	-0.0833
5000	-0.1738	-0.0009	-0.9470	-0.8222	-0.4064	-0.1660	-0.1025
Reps		Position 2					
0	-0.6910	-0.0970	-0.7848	-0.5206	-0.2072	-0.1400	-0.0925
1000	-0.7841	-0.1103	-1.2124	-0.8306	-0.4593	-0.1815	-0.1093
2500	-0.8701	-0.1247	-1.5656	-1.1883	-0.5031	-0.2258	-0.1289
5000	-0.9913	-0.1296	-2.0589	-1.7044	-0.7195	-0.2975	-0.1513
Reps		Position 3					
0	-0.5107	-0.1207	-0.6977	-0.4784	-0.2076	-0.1393	-0.0771
1000	-0.6121	-0.1263	-1.1504	-0.7897	-0.4269	-0.1745	-0.1029
2500	-0.6752	-0.1364	-1.4254	-1.1306	-0.4748	-0.2205	-0.1226
5000	-0.7928	-0.1494	-1.8563	-1.6420	-0.6516	-0.2930	-0.1566

Table G-17. Maximum peak longitudinal displacements (A) in subgrade (TS704C4)

704C4		Longitudinal Displacement (mm)					
Depth (mm)	76	197	305	454	622	762	914
Reps		Position 1					
0	-2.8444	-0.0652	-0.1258	-0.0466	-0.0253	-0.0174	-0.0121
1000	-3.1256	-0.0920	-0.1594	-0.0925	-0.0480	-0.0241	-0.0180
2500	-2.8911	-0.1118	-0.1912	-0.1549	-0.0807	-0.0285	-0.0180

5000	-3.3168	-0.1500	-0.2710	-0.2348	-0.1933	-0.0576	-0.0134
Reps							
0	-2.7042	-0.0355	-0.0732	-0.0237	-0.0130	-0.0059	-0.0025
1000	-2.9375	-0.0526	-0.1149	-0.0805	-0.0290	-0.0120	-0.0118
2500	-3.0819	-0.0762	-0.1481	-0.1371	-0.0609	-0.0213	-0.0090
5000	-2.6267	-0.0800	-0.1879	-0.2123	-0.1531	-0.0490	-0.0063
Reps							
Position 2							
0	-1.9348	-0.0108	-0.0426	-0.0217	-0.0148	-0.0078	-0.0026
1000	-3.0265	-0.0240	-0.1120	-0.0461	-0.0215	-0.0076	-0.0118
2500	-3.8866	-0.0291	-0.1151	-0.0641	-0.0231	-0.0140	-0.0104
5000	-2.6166	-0.0442	-0.1551	-0.0992	-0.0588	-0.0249	-0.0143

Table G-18. Maximum peak longitudinal displacements (B) in subgrade (TS704C4)

704C4							
Depth (mm)	76	197	305	454	622	762	914
Reps							
0	2.6016	0.1415	0.2475	0.1120	0.0505	0.0502	0.0392
1000	1.9239	0.1980	0.3405	0.2520	0.1258	0.0597	0.0361
2500	2.5760	0.2766	0.4488	0.3550	0.1750	0.0765	0.0449
5000	3.5695	0.3985	0.6232	0.5446	0.2524	0.1098	0.0507
Reps							
Position 2							
0	3.8987	0.2174	0.3555	0.1617	0.0771	0.0638	0.0604
1000	3.4617	0.4117	0.6185	0.4108	0.2192	0.1002	0.0639
2500	2.6049	0.5605	0.7979	0.6063	0.2909	0.1358	0.0686
5000	3.0773	0.7498	1.0916	0.9677	0.4246	0.1905	0.0892
Reps							
Position 3							
0	4.4172	0.1616	0.2678	0.1295	0.0701	0.0653	0.0493
1000	4.9625	0.3360	0.5400	0.3631	0.1928	0.0957	0.0594
2500	2.5446	0.4535	0.6778	0.5393	0.2624	0.1196	0.0691
5000	4.7027	0.5642	0.9129	0.8707	0.3523	0.1640	0.0763

Table G-19. Maximum peak longitudinal displacements (C) in subgrade (TS704C4)

704C4							
Depth (mm)	76	197	305	454	622	762	914
Reps							
0	-2.8444	0.0060	0.0016	-0.0046	-0.0115	-0.0039	-0.0120
1000	-1.3397	-0.0027	-0.0055	-0.0052	-0.0112	-0.0041	-0.0116

2500	-2.8707	0.0104	0.0000	-0.0003	-0.0073	-0.0068	-0.0125
5000	-3.0667	0.0243	0.0049	0.0066	0.0131	-0.0098	-0.0104
Reps	Position 2						
0	-2.7042	0.0072	-0.0113	-0.0107	-0.0130	-0.0030	0.0012
1000	-1.4640	-0.0026	-0.0368	-0.0173	-0.0074	-0.0049	-0.0118
2500	-3.0819	-0.0006	-0.0458	-0.0158	-0.0058	-0.0025	-0.0090
5000	-2.6267	0.0090	-0.0581	-0.0315	0.0115	0.0037	-0.0063
Reps	Position 3						
0	-0.5943	-0.0035	-0.0426	-0.0217	-0.0148	-0.0056	-0.0023
1000	-1.8696	-0.0240	-0.1120	-0.0461	-0.0215	-0.0070	-0.0118
2500	-3.8523	-0.0257	-0.1151	-0.0641	-0.0231	-0.0121	-0.0104
5000	-2.6166	-0.0442	-0.1551	-0.0992	-0.0096	-0.0030	-0.0143

Table G-20. Maximum peak transverse displacements in subgrade (TS704C4)

Depth (mm)	Transverse Displacement (mm)						
	76	197	305	454	622	762	914
Reps	Position 1						
0	2.9956	0.0778	0.1245	0.0533	0.0361	0.0286	
1000	2.1301	0.1075	0.1699	0.0925	0.0736	0.0245	
2500	3.3999	0.1219	0.2226	0.1291	0.0896	0.0335	
5000	1.8625	0.1565	0.3001	0.1556	0.1095	0.0349	
Reps	Position 2						
0	2.0811	0.0924	0.1314	0.0893	0.0652	0.0434	
1000	2.6569	0.1267	0.1957	0.1771	0.1328	0.0634	
2500	4.2103	0.1471	0.2464	0.2414	0.1653	0.0738	
5000	3.7795	0.1712	0.3089	0.2937	0.2214	0.0837	
Reps	Position 3						
0	26.5707	0.0514	0.0747	0.0734	0.0575	0.0397	
1000	24.9121	0.0713	0.1305	0.1580	0.1066	0.0592	
2500	28.7491	0.0666	0.1529	0.2010	0.1336	0.0659	
5000	22.7868	0.0532	0.1444	0.2197	0.1750	0.0772	

Table G-21. Maximum peak vertical displacements in subgrade (TS704C5)

704C5		Vertical Displacement (mm)						
Depth (mm)		132	243	378	538	692	840	991
Reps		Position 1						
0	-0.0068	-0.0048	-0.0050	-0.0050	-0.0048	-0.0063	-0.0068	
500	-0.0095	-0.0044	-0.0042	-0.0048	-0.0046	-0.0050	-0.0054	
1000	-0.0090	-0.0049	-0.0042	-0.0051	-0.0046	-0.0046	-0.0052	
2500	-0.0061	-0.0048	-0.0048	-0.0044	-0.0049	-0.0048	-0.0071	
5000	-0.0078	-0.0049	-0.0050	-0.0047	-0.0050	-0.0050	-0.0061	
10000	-0.0072	-0.0047	-0.0045	-0.0046	-0.0047	-0.0052	-0.0059	
25000	-0.0072	-0.0049	-0.0050	-0.0049	-0.0046	-0.0049	-0.0055	
50000	-0.0795	-0.0269	-0.0466	-0.0175	-0.0241	-0.0117	-0.0126	
117340	-0.0072	-0.0049	-0.0043	-0.0047	-0.0086	-0.0056	-0.0088	
250000	-0.0070	-0.0044	-0.0106	-0.0052	-0.0117	-0.0073	-0.0094	
505281	-0.0268	-0.0050	-0.0097	-0.0047	-0.0115	-0.0074	-0.0097	
780122	-0.0046	-0.0050	-0.0049	-0.0049	-0.0077	-0.0052	-0.0082	
Reps		Position 2						
0	-0.0030	-0.0002	-0.0004	-0.0002	-0.0018	-0.0023	-0.0046	
500	-0.0044	-0.0002	-0.0005	-0.0002	-0.0017	-0.0015	-0.0056	
1000	-0.0067	-0.0002	-0.0002	-0.0003	-0.0013	-0.0012	-0.0040	
2500	-0.0065	-0.0001	-0.0023	-0.0003	-0.0045	-0.0024	-0.0056	
5000	-0.0060	-0.0004	-0.0008	-0.0006	-0.0017	-0.0019	-0.0050	
10000	-0.0071	-0.0006	-0.0006	-0.0003	-0.0033	-0.0028	-0.0069	
25000	-0.0068	-0.0002	-0.0001	-0.0004	-0.0033	-0.0028	-0.0076	
50000	-0.0073	-0.0009	-0.0459	-0.0104	-0.0228	-0.0101	-0.0131	
117340	-0.0068	-0.0003	-0.0032	-0.0002	-0.0096	-0.0050	-0.0089	
250000	-0.0083	-0.0001	-0.0126	-0.0008	-0.0158	-0.0093	-0.0131	
505281	-0.0068	-0.0001	-0.0095	-0.0008	-0.0112	-0.0083	-0.0107	
780122	-0.0072	-0.0004	-0.0009	-0.0005	-0.0064	-0.0056	-0.0099	
Reps		Position 3						
0	-0.0069	-0.0003	0.0006	-0.0007	-0.0013	-0.0013	-0.0053	
500	-0.0043	-0.0006	-0.0002	-0.0005	-0.0018	-0.0032	-0.0055	
1000	-0.0047	-0.0004	-0.0004	-0.0010	-0.0007	-0.0017	-0.0038	
2500	-0.0038	-0.0003	-0.0020	-0.0005	-0.0025	-0.0031	-0.0066	
5000	-0.0051	-0.0004	-0.0006	-0.0006	-0.0015	-0.0019	-0.0049	
10000	-0.0063	-0.0001	-0.0006	-0.0002	-0.0025	-0.0025	-0.0058	
25000	-0.0068	-0.0004	-0.0022	-0.0002	-0.0065	-0.0026	-0.0064	
50000	-0.0055	-0.0004	-0.0230	-0.0044	-0.0154	-0.0099	-0.0131	
117340	-0.0076	-0.0002	-0.0013	-0.0004	-0.0068	-0.0052	-0.0081	
250000	-0.0094	-0.0004	-0.0154	-0.0020	-0.0125	-0.0082	-0.0113	
505281	-0.0059	-0.0003	-0.0032	-0.0009	-0.0070	-0.0054	-0.0085	
780122	-0.0073	-0.0001	-0.0006	-0.0003	-0.0027	-0.0027	-0.0077	

Table G-22. Maximum peak longitudinal displacements (A) in subgrade (TS704C5)

704C5		Longitudinal Displacement (mm)						
Depth (mm)		76	187	298	457	619	765	914
Reps		Position 1						
0	-0.0259	-0.0192	-0.0169	-0.0168	-0.0166	-0.0139	-0.0158	
500	-0.0252	-0.0221	-0.0176	-0.0158	-0.0141	-0.0125	-0.0171	
1000	-0.0221	-0.0211	-0.0181	-0.0192	-0.0152	-0.0149	-0.0144	
2500	-0.0157	-0.0241	-0.0192	-0.0174	-0.0159	-0.0148	-0.0164	
5000	-0.0231	-0.0276	-0.0207	-0.0191	-0.0148	-0.0142	-0.0158	
10000	-0.0259	-0.0309	-0.0208	-0.0184	-0.0149	-0.0146	-0.0146	
25000	-0.0270	-0.0370	-0.0248	-0.0190	-0.0155	-0.0159	-0.0152	
50000	-0.0311	-0.0382	-0.0272	-0.0236	-0.0151	-0.0161	-0.0151	
117340	-0.0334	-0.0393	-0.0230	-0.0215	-0.0173	-0.0149	-0.0162	
250000	-0.0298	-0.0361	-0.0240	-0.0221	-0.0165	-0.0146	-0.0149	
505281	-0.0273	-0.0235	-0.0189	-0.0176	-0.0162	-0.0146	-0.0150	
780122	-0.0265	-0.0203	-0.0165	-0.0175	-0.0153	-0.0155	-0.0132	
Reps		Position 2						
0	-0.0180	-0.0207	-0.0128	-0.0046	-0.0051	-0.0023	-0.0023	
500	-0.0150	-0.0278	-0.0135	-0.0081	-0.0037	-0.0003	-0.0022	
1000	-0.0163	-0.0187	-0.0121	-0.0109	-0.0076	-0.0014	-0.0043	
2500	-0.0131	-0.0311	-0.0142	-0.0108	-0.0066	-0.0033	-0.0043	
5000	-0.0169	-0.0326	-0.0165	-0.0117	-0.0049	-0.0052	-0.0040	
10000	-0.0168	-0.0406	-0.0195	-0.0139	-0.0059	-0.0023	-0.0026	
25000	-0.0231	-0.0528	-0.0261	-0.0175	-0.0067	-0.0040	-0.0017	
50000	-0.0290	-0.0623	-0.0301	-0.0177	-0.0088	-0.0041	-0.0025	
117340	-0.0327	-0.0589	-0.0310	-0.0194	-0.0105	-0.0050	-0.0021	
250000	-0.0331	-0.0582	-0.0276	-0.0179	-0.0098	-0.0036	-0.0024	
505281	-0.0348	-0.0426	-0.0246	-0.0157	-0.0101	-0.0057	-0.0022	
780122	-0.0294	-0.0341	-0.0161	-0.0093	-0.0062	-0.0031	-0.0022	
Reps		Position 3						
0	-0.0077	-0.0205	-0.0062	-0.0063	-0.0059	-0.0038	-0.0022	
500	-0.0125	-0.0298	-0.0105	-0.0079	-0.0055	-0.0071	-0.0041	
1000	-0.0156	-0.0246	-0.0134	-0.0093	-0.0073	-0.0033	-0.0028	
2500	-0.0115	-0.0317	-0.0141	-0.0083	-0.0061	-0.0026	-0.0024	
5000	-0.0138	-0.0308	-0.0173	-0.0106	-0.0052	-0.0051	-0.0024	
10000	-0.0173	-0.0418	-0.0186	-0.0109	-0.0069	-0.0041	-0.0017	
25000	-0.0221	-0.0529	-0.0267	-0.0141	-0.0081	-0.0040	-0.0026	
50000	-0.0276	-0.0619	-0.0295	-0.0145	-0.0086	-0.0031	-0.0026	
117340	-0.0273	-0.0613	-0.0274	-0.0141	-0.0082	-0.0040	-0.0025	
250000	-0.0307	-0.0565	-0.0251	-0.0166	-0.0104	-0.0072	-0.0029	
505281	-0.0328	-0.0482	-0.0258	-0.0157	-0.0097	-0.0078	-0.0034	
780122	-0.0296	-0.0399	-0.0168	-0.0106	-0.0083	-0.0035	-0.0020	

Table G-23. Maximum peak longitudinal displacements (B) in subgrade (TS704C5)

704C5		Longitudinal Displacement (mm)						
Depth (mm)		76	187	298	457	619	765	914
Reps		Position 1						
0	0.0205	0.0198	0.0229	0.0199	0.0203	0.0211	0.0204	
500	0.0190	0.0192	0.0209	0.0200	0.0205	0.0226	0.0182	
1000	0.0199	0.0208	0.0236	0.0200	0.0216	0.0207	0.0207	
2500	0.0199	0.0214	0.0179	0.0214	0.0208	0.0191	0.0192	
5000	0.0196	0.0197	0.0209	0.0203	0.0206	0.0205	0.0210	
10000	0.0198	0.0207	0.0205	0.0215	0.0207	0.0207	0.0207	
25000	0.0208	0.0203	0.0199	0.0206	0.0204	0.0205	0.0210	
50000	0.0813	0.0999	0.0578	0.0269	0.0206	0.0203	0.0207	
117340	0.0264	0.0204	0.0237	0.0219	0.0208	0.0207	0.0198	
250000	0.0373	0.0213	0.0335	0.0220	0.0221	0.0206	0.0221	
505281	0.0696	0.0275	0.0289	0.0207	0.0199	0.0206	0.0203	
780122	0.0423	0.0342	0.0197	0.0201	0.0210	0.0199	0.0220	
Reps		Position 2						
0	0.0028	0.0011	0.0007	0.0039	0.0016	0.0018	0.0021	
500	0.0008	0.0012	-0.0003	0.0021	0.0010	0.0041	0.0044	
1000	0.0007	0.0010	0.0037	0.0013	0.0010	0.0036	0.0007	
2500	0.0104	0.0007	0.0010	0.0003	0.0048	0.0041	0.0026	
5000	-0.0009	0.0007	0.0024	0.0012	0.0035	0.0008	0.0026	
10000	0.0013	0.0008	0.0010	0.0003	0.0055	0.0047	0.0028	
25000	0.0009	0.0007	0.0020	0.0011	0.0061	0.0044	0.0035	
50000	0.1163	0.1415	0.1026	0.0501	0.0318	0.0153	0.0056	
117340	0.0203	0.0010	0.0282	0.0161	0.0172	0.0081	0.0049	
250000	0.0871	0.0127	0.0519	0.0354	0.0295	0.0147	0.0091	
505281	0.0909	0.0162	0.0506	0.0277	0.0212	0.0112	0.0081	
780122	0.0308	0.0007	0.0169	0.0076	0.0152	0.0105	0.0047	
Reps		Position 3						
0	0.0038	0.0015	0.0050	0.0007	-0.0004	0.0017	0.0020	
500	0.0051	0.0001	-0.0001	0.0008	0.0009	0.0005	0.0015	
1000	0.0003	0.0008	0.0016	0.0007	0.0010	0.0012	0.0019	
2500	0.0082	0.0018	0.0012	0.0034	0.0053	0.0056	0.0039	
5000	0.0011	-0.0008	0.0014	0.0007	0.0038	0.0024	0.0026	
10000	0.0010	0.0011	0.0002	0.0004	0.0037	0.0028	0.0044	
25000	0.0153	0.0017	0.0060	0.0041	0.0097	0.0034	0.0036	
50000	0.0735	0.0475	0.0746	0.0450	0.0263	0.0137	0.0076	
117340	0.0003	0.0005	0.0091	0.0072	0.0127	0.0065	0.0044	
250000	0.0997	0.0260	0.0549	0.0323	0.0235	0.0099	0.0072	
505281	0.0521	0.0006	0.0267	0.0092	0.0149	0.0068	0.0046	
780122	0.0002	0.0008	0.0008	0.0009	0.0047	0.0058	0.0049	

Table G-24. Maximum peak longitudinal displacements (C) in subgrade (TS704C5)

704C5		Longitudinal Displacement (mm)						
Depth (mm)		76	187	298	457	619	765	914
Reps		Position 1						
0	-0.0259	-0.0192	-0.0169	-0.0129	-0.0166	-0.0126	-0.0139	
500	-0.0252	-0.0221	-0.0176	-0.0158	-0.0141	-0.0103	-0.0104	
1000	-0.0221	-0.0211	-0.0181	-0.0192	-0.0132	-0.0126	-0.0113	
2500	-0.0157	-0.0241	-0.0192	-0.0174	-0.0159	-0.0123	-0.0125	
5000	-0.0231	-0.0276	-0.0207	-0.0191	-0.0148	-0.0119	-0.0131	
10000	-0.0259	-0.0309	-0.0208	-0.0184	-0.0136	-0.0145	-0.0114	
25000	-0.0270	-0.0370	-0.0248	-0.0190	-0.0149	-0.0141	-0.0110	
50000	-0.0311	-0.0382	-0.0272	-0.0236	-0.0151	-0.0133	-0.0112	
117340	-0.0334	-0.0393	-0.0230	-0.0215	-0.0173	-0.0129	-0.0123	
250000	-0.0298	-0.0361	-0.0240	-0.0221	-0.0165	-0.0116	-0.0112	
505281	-0.0273	-0.0235	-0.0189	-0.0176	-0.0162	-0.0119	-0.0118	
780122	-0.0265	-0.0203	-0.0161	-0.0175	-0.0153	-0.0122	-0.0096	
Reps		Position 2						
0	-0.0180	-0.0207	-0.0128	-0.0046	-0.0051	-0.0023	-0.0016	
500	-0.0150	-0.0278	-0.0135	-0.0081	-0.0037	-0.0003	-0.0020	
1000	-0.0163	-0.0187	-0.0121	-0.0109	-0.0076	0.0003	-0.0043	
2500	-0.0131	-0.0311	-0.0142	-0.0108	-0.0066	-0.0032	-0.0043	
5000	-0.0169	-0.0326	-0.0165	-0.0117	-0.0049	-0.0052	-0.0040	
10000	-0.0168	-0.0406	-0.0195	-0.0139	-0.0059	-0.0023	-0.0026	
25000	-0.0231	-0.0528	-0.0261	-0.0175	-0.0067	-0.0040	-0.0017	
50000	-0.0290	-0.0623	-0.0301	-0.0177	-0.0088	-0.0041	-0.0025	
117340	-0.0327	-0.0589	-0.0310	-0.0194	-0.0105	-0.0050	-0.0021	
250000	-0.0331	-0.0582	-0.0276	-0.0179	-0.0098	-0.0036	-0.0019	
505281	-0.0348	-0.0426	-0.0246	-0.0157	-0.0101	-0.0057	-0.0022	
780122	-0.0294	-0.0341	-0.0161	-0.0093	-0.0062	-0.0031	-0.0022	
Reps		Position 3						
0	-0.0077	-0.0205	-0.0062	-0.0051	-0.0059	-0.0029	-0.0022	
500	-0.0125	-0.0298	-0.0105	-0.0079	-0.0055	-0.0071	-0.0041	
1000	-0.0156	-0.0246	-0.0134	-0.0093	-0.0073	-0.0033	-0.0026	
2500	-0.0115	-0.0317	-0.0141	-0.0083	-0.0061	-0.0026	-0.0024	
5000	-0.0138	-0.0308	-0.0173	-0.0106	-0.0052	-0.0051	-0.0003	
10000	-0.0173	-0.0418	-0.0186	-0.0109	-0.0069	-0.0041	-0.0017	
25000	-0.0221	-0.0529	-0.0267	-0.0141	-0.0081	-0.0040	-0.0026	
50000	-0.0276	-0.0619	-0.0295	-0.0145	-0.0086	-0.0031	-0.0022	
117340	-0.0273	-0.0613	-0.0274	-0.0141	-0.0082	-0.0040	-0.0025	
250000	-0.0307	-0.0565	-0.0251	-0.0166	-0.0104	-0.0072	-0.0029	
505281	-0.0328	-0.0482	-0.0258	-0.0157	-0.0097	-0.0078	-0.0034	
780122	-0.0296	-0.0399	-0.0168	-0.0106	-0.0083	-0.0035	-0.0020	

Table G-25. Maximum peak transverse displacements in subgrade (TS704C5)

704C5		Transverse Displacement (mm)						
Depth (mm)		76	187	298	457	619	765	914
Reps		Position 1						
0	0.3103	0.0012	0.0047	0.0069	0.0056	0.0048	0.0055	
500	0.3458	0.0061	0.0053	0.0063	0.0022	0.0047	0.0064	
1000	0.2372	0.0051	0.0035	0.0034	0.0058	0.0052	0.0055	
2500	0.8054	0.0078	0.0085	0.0058	0.0105	0.0074	0.0063	
5000	0.5325	0.0033	0.0028	0.0042	0.0050	0.0040	0.0059	
10000	0.6762	0.0092	0.0064	0.0079	0.0049	0.0050	0.0056	
25000	0.9049	0.0089	0.0074	0.0080	0.0065	0.0064	0.0052	
50000	2.6095	0.0215	0.0075	0.0114	0.0054	0.0043	0.0068	
117340	2.0952	0.0079	0.0085	0.0087	0.0084	0.0048	0.0061	
250000	2.8190	0.0099	0.0080	0.0113	0.0069	0.0049	0.0053	
505281	3.0808	0.0050	0.0068	0.0075	0.0053	0.0062	0.0042	
780122	2.4773	0.0037	0.0039	0.0072	0.0068	0.0069	0.0067	
Reps		Position 2						
0	0.4224	0.0037	0.0035	0.0063	0.0086	0.0065	0.0050	
500	0.4971	0.0064	0.0058	0.0074	0.0050	0.0022	0.0040	
1000	0.2451	0.0042	0.0064	0.0050	0.0043	-0.0003	0.0037	
2500	1.4287	0.0154	0.0142	0.0124	0.0076	0.0058	0.0060	
5000	0.5683	0.0030	0.0051	0.0096	0.0065	0.0037	0.0045	
10000	1.1570	0.0201	0.0175	0.0129	0.0108	0.0030	0.0059	
25000	1.7114	0.0196	0.0239	0.0136	0.0114	0.0035	0.0065	
50000	4.3495	0.0931	0.0495	0.0335	0.0176	0.0091	0.0083	
117340	3.0749	0.0382	0.0340	0.0222	0.0156	0.0064	0.0064	
250000	4.8868	0.0458	0.0373	0.0285	0.0175	0.0077	0.0081	
505281	5.1807	0.0382	0.0302	0.0218	0.0143	0.0071	0.0080	
780122	3.7996	0.0297	0.0207	0.0169	0.0078	0.0062	0.0091	
Reps		Position 3						
0	0.9708	0.0059	0.0040	0.0088	0.0061	0.0058	0.0072	
500	0.9877	0.0070	0.0059	0.0062	0.0045	0.0073	0.0029	
1000	1.0487	0.0068	0.0027	0.0081	0.0048	0.0033	0.0048	
2500	1.4155	0.0089	0.0167	0.0147	0.0099	0.0040	0.0065	
5000	0.9753	0.0061	0.0090	0.0103	0.0099	0.0057	0.0051	
10000	1.2802	0.0153	0.0208	0.0173	0.0116	0.0054	0.0058	
25000	2.2895	0.0266	0.0301	0.0235	0.0151	0.0074	0.0061	
50000	3.8792	0.0534	0.0503	0.0345	0.0186	0.0107	0.0057	
117340	2.7394	0.0323	0.0280	0.0234	0.0153	0.0070	0.0041	
250000	5.2927	0.0475	0.0395	0.0328	0.0238	0.0083	0.0100	
505281	4.9718	0.0382	0.0300	0.0237	0.0184	0.0073	0.0084	
780122	2.9052	0.0117	0.0168	0.0131	0.0074	0.0066	0.0048	

Table G-26. Maximum peak vertical displacements in subgrade (TS704C6)

704C6		Vertical Displacement (mm)						
Depth (mm)		132	246	381	537	686	835	991
Reps		Position 1						
0	-0.0060	-0.0049	-0.0040	-0.0052	-0.0047	-0.0080	-0.0050	
500	-0.0043	-0.0048	-0.0041	-0.0057	-0.0055	-0.0070	0.0132	
1000	-0.0047	-0.0050	-0.1942	-0.0052	-0.0049	-0.0074	-0.0055	
2500	-0.0034	-0.0049	-0.0039	-0.0041	-0.0044	-0.0055	-0.0051	
5000	-0.0054	-0.0052	-0.0032	-0.0048	-0.0056	-0.0055	-0.0048	
8600	-0.0045	-0.0051	-0.0042	-0.0047	-0.0044	-0.0062	-0.0045	
22500	-0.0058	-0.0047	-0.0049	-0.0062	-0.0043	-0.0113	-0.0058	
50000	-0.0062	-0.0047	-0.0053	-0.0301	-0.0176	-0.0230	-0.0080	
100500	-3.0938	-0.0763	-0.0967	-0.0709	-0.0308	-0.0174	-0.0148	
250100	-0.0050	-0.0135	-0.0043	-0.0044	-0.0049	-0.0159	-0.0062	
Reps		Position 2						
0	-0.0016	0.0001	0.0002	-0.0023	-0.0042	-0.0142	-0.0045	
500	-0.0376	-0.0016	-0.0011	-0.0021	-0.0014	-0.0087	-0.0021	
1000	-0.0014	-0.0001	-0.0010	-0.0014	-0.0012	-0.0099	-0.0021	
2500	-0.0008	-0.0011	-0.0011	-0.0016	-0.0008	-0.0047	-0.0015	
5000	-0.0015	-0.0010	0.0004	-0.0014	-0.0012	-0.0074	-0.0017	
8600	-0.0020	-0.0001	0.0001	-0.0012	-0.0009	-0.0063	-0.0017	
22500	-0.0013	-0.0002	-0.0009	-0.0004	-0.0009	-0.0142	-0.0030	
50000	-0.0168	-0.0002	-0.0007	-0.0258	-0.0147	-0.0358	-0.0112	
100500	-1.3458	-0.0125	-0.0570	-0.0668	-0.0359	-0.0497	-0.0162	
250100	-0.0014	-0.0003	-0.0010	-0.0015	-0.0016	-0.0154	-0.3080	
Reps		Position 3						
0	-0.2775	-0.0001	-0.0062	-0.0071	-0.0069	-0.0192	-0.0075	
500	-0.0014	-0.0002	-0.0025	-0.0014	-0.0042	-0.0096	-0.0035	
1000	-0.0032	-0.0005	-0.0004	-0.0017	-0.0018	-0.0104	-0.0054	
2500	-0.0008	-0.0008	-0.0009	-0.0015	-0.0012	-0.0060	-0.0033	
5000	-0.0024	-0.0010	0.0006	-0.0011	-0.0010	-0.0090	-0.0024	
8600	-0.0014	-0.0001	0.0006	-0.0009	-0.0008	-0.0074	-0.0028	
22500	-0.0013	-0.0010	-0.0008	-0.0013	-0.0013	-0.0115	-0.0030	
50000	-0.1820	0.0000	-0.0009	-0.0159	-0.0113	-0.0316	-0.0110	
100500	0.0075	-0.0441	-0.0063	-0.0191	-0.0158	-0.0392	-0.0128	
250100	-0.0016	-0.0005	-0.0007	-0.0033	-0.0012	-0.0124	-0.0029	

Table G-27. Maximum peak longitudinal displacements (A) in subgrade (TS702C6)

704C6		Longitudinal Displacement (mm)						
Depth (mm)		76	187	305	457	616	756	914
Reps		Position 1						
0	-0.0226	-0.0188	-0.0305	-0.0178	-0.0133	-0.0148	-0.0142	
500	-0.0228	-0.0224	-0.0346	-0.0196	-0.0176	-0.0144	-0.0054	
1000	-0.0226	-0.0245	-0.1026	-0.0235	-0.0189	-0.0152	-0.0146	
2500	-0.0226	-0.0294	-0.0405	-0.0269	-0.0204	-0.0156	-0.0138	
5000	-0.0423	-0.0351	-0.0507	-0.0311	-0.0206	-0.0157	-0.0162	
8600	-0.0382	-0.0341	-0.0551	-0.0335	-0.0230	-0.0164	-0.0163	
22500	-0.0381	-0.0426	-0.0789	-0.0435	-0.0236	-0.0151	-0.0150	
50000	-0.0373	-0.0408	-0.0725	-0.0435	-0.0239	-0.0150	-0.0371	
100500	-0.5663	-0.0910	-0.0850	-0.0486	-0.0254	-0.0155	-0.0385	
250100	-0.0362	-0.0739	-0.0823	-0.0460	-0.0223	-0.0169	-0.0149	
Reps		Position 2						
0	-0.1716	-0.0205	-0.0278	-0.0141	-0.0090	-0.0035	-0.0013	
500	-0.0053	-0.0232	-0.0396	-0.0178	-0.0098	-0.0045	-0.0034	
1000	-0.0133	-0.0263	-0.0431	-0.0197	-0.0112	-0.0054	-0.0035	
2500	-0.0175	-0.0322	-0.0489	-0.0260	-0.0129	-0.0058	-0.0042	
5000	-0.0327	-0.0404	-0.0623	-0.0300	-0.0148	-0.0058	-0.0069	
8600	-0.0312	-0.0455	-0.0707	-0.0368	-0.0174	-0.0074	-0.0061	
22500	-0.0266	-0.0602	-0.0969	-0.0544	-0.0243	-0.0116	-0.0073	
50000	-1.1363	-0.0618	-0.0975	-0.0590	-0.0232	-0.0099	-0.0683	
100500	-0.0167	-0.0712	-0.1097	-0.0634	-0.0248	-0.0100	-0.0105	
250100	-0.0354	-0.0859	-0.1080	-0.0643	-0.0254	-0.0083	-0.2217	
Reps		Position 3						
0	-0.2598	-0.0221	-0.0239	-0.0104	-0.0079	-0.0029	-0.0022	
500	-0.0063	-0.0227	-0.0322	-0.0152	-0.0077	-0.0047	-0.0022	
1000	-0.0127	-0.0250	-0.0361	-0.0186	-0.0098	-0.0052	-0.0045	
2500	-0.0168	-0.0327	-0.0373	-0.0212	-0.0108	-0.0046	-0.0028	
5000	-0.0242	-0.0366	-0.0516	-0.0250	-0.0123	-0.0054	-0.0059	
8600	-0.0271	-0.0413	-0.0589	-0.0340	-0.0151	-0.0066	-0.0045	
22500	-0.0227	-0.0566	-0.0794	-0.0482	-0.0203	-0.0089	-0.0026	
50000	-0.5930	-0.0592	-0.0793	-0.0527	-0.0182	-0.0079	-0.0718	
100500	-0.1991	-0.0584	-0.0865	-0.0542	-0.0196	-0.0086	0.0008	
250100	-0.0236	-0.0823	-0.0849	-0.0539	-0.0192	-0.0088	0.0004	

Table G-28. Maximum peak longitudinal displacements (B) in subgrade (TS702C6)

704C6		Longitudinal Displacement (mm)						
Depth (mm)		76	187	305	457	616	756	914
Reps		Position 1						
0	0.0454	0.0205	0.0203	0.0195	0.0213	0.0197	0.0207	
500	0.0209	0.0206	0.0202	0.0214	0.0199	0.0208	0.0282	
1000	0.0203	0.0197	0.1007	0.0212	0.0200	0.0208	0.0200	
2500	0.0214	0.0201	0.0200	0.0208	0.0199	0.0202	0.0214	
5000	0.0210	0.0203	0.0206	0.0201	0.0202	0.0202	0.0195	
8600	0.0211	0.0195	0.0203	0.0203	0.0205	0.0210	0.0194	
22500	0.0501	0.0204	0.0208	0.0208	0.0201	0.0202	0.0213	
50000	0.1557	0.1140	0.0949	0.0958	0.0335	0.0205	0.0141	
100500	0.6144	0.1239	0.1778	0.1232	0.0428	0.0197	0.0403	
250100	0.1475	0.0277	0.0208	0.0332	0.0202	0.0207	0.0179	
Reps		Position 2						
0	0.1134	0.0228	0.0005	0.0085	0.0033	0.0060	0.0053	
500	0.0282	-0.0002	0.0007	0.0023	0.0003	0.0008	0.0018	
1000	0.0500	0.0006	0.0010	0.0013	0.0016	0.0006	0.0022	
2500	0.0013	0.0003	0.0010	0.0017	0.0020	0.0017	0.0014	
5000	0.0030	0.0007	0.0008	0.0013	0.0009	0.0006	0.0009	
8600	0.0024	0.0014	0.0004	0.0019	0.0013	0.0008	0.0010	
22500	0.0510	0.0008	0.0011	0.0017	0.0011	0.0011	0.0010	
50000	0.0182	0.1842	0.0738	0.1085	0.0449	0.0227	-0.0086	
100500	0.3411	0.3179	0.2928	0.1839	0.0757	0.0323	0.0122	
250100	0.0713	0.0031	0.0008	0.0007	0.0016	0.0043	0.0012	
Reps		Position 3						
0	0.2145	0.0485	0.0341	0.0208	0.0112	0.0074	0.0060	
500	0.1097	0.0003	0.0001	0.0009	0.0006	0.0012	0.0018	
1000	0.0211	0.0002	0.0008	0.0007	0.0008	0.0004	0.0029	
2500	0.0010	0.0005	0.0013	0.0017	0.0009	0.0008	0.0013	
5000	0.0396	0.0001	0.0007	0.0010	0.0005	0.0008	0.0004	
8600	0.0016	0.0005	0.0010	0.0009	0.0010	0.0008	0.0010	
22500	0.0389	0.0001	0.0012	0.0011	0.0013	0.0014	0.0041	
50000	0.0026	0.0826	0.0433	0.0758	0.0313	0.0174	-0.0073	
100500	0.0961	0.4579	0.1430	0.0934	0.0454	0.0225	0.0578	
250100	0.0998	0.0001	0.0006	0.0014	0.0011	0.0012	0.0109	

Table G-29. Maximum peak longitudinal displacements (C) in subgrade (TS702C6)

704C6		Longitudinal Displacement (mm)						
Depth (mm)		76	187	305	457	616	756	914
Reps		Position 1						
0	-0.0226	-0.0188	-0.0305	-0.0178	-0.0125	-0.0124	-0.0111	
500	-0.0228	-0.0224	-0.0346	-0.0196	-0.0176	-0.0137	0.0091	
1000	-0.0226	-0.0245	0.0312	-0.0235	-0.0189	-0.0139	-0.0133	
2500	-0.0226	-0.0294	-0.0405	-0.0269	-0.0204	-0.0156	-0.0125	
5000	-0.0423	-0.0351	-0.0507	-0.0311	-0.0206	-0.0157	-0.0154	
8600	-0.0382	-0.0341	-0.0551	-0.0335	-0.0230	-0.0164	-0.0155	
22500	-0.0381	-0.0426	-0.0789	-0.0435	-0.0236	-0.0151	-0.0135	
50000	-0.0373	-0.0408	-0.0725	-0.0435	-0.0239	-0.0150	-0.0371	
100500	-0.5663	-0.0910	-0.0850	-0.0486	-0.0254	-0.0144	-0.0385	
250100	-0.0362	-0.0739	-0.0823	-0.0460	-0.0223	-0.0169	-0.0114	
Reps		Position 2						
0	-0.1716	-0.0205	-0.0278	-0.0141	-0.0090	-0.0035	-0.0013	
500	-0.0004	-0.0232	-0.0396	-0.0178	-0.0098	-0.0045	-0.0034	
1000	-0.0133	-0.0263	-0.0431	-0.0197	-0.0112	-0.0054	-0.0035	
2500	-0.0175	-0.0322	-0.0489	-0.0260	-0.0129	-0.0058	-0.0042	
5000	-0.0327	-0.0404	-0.0623	-0.0300	-0.0148	-0.0058	-0.0069	
8600	-0.0312	-0.0455	-0.0707	-0.0368	-0.0174	-0.0074	-0.0061	
22500	-0.0266	-0.0602	-0.0969	-0.0544	-0.0243	-0.0116	-0.0073	
50000	-1.1363	-0.0618	-0.0975	-0.0590	-0.0232	-0.0099	-0.0683	
100500	-0.0167	-0.0712	-0.1097	-0.0634	-0.0248	-0.0100	-0.0105	
250100	-0.0354	-0.0859	-0.1080	-0.0643	-0.0254	-0.0083	-0.2217	
Reps		Position 3						
0	-0.2598	-0.0221	-0.0239	-0.0104	-0.0079	-0.0029	-0.0022	
500	-0.0063	-0.0227	-0.0322	-0.0152	-0.0077	-0.0047	-0.0022	
1000	-0.0127	-0.0250	-0.0361	-0.0186	-0.0098	-0.0052	-0.0045	
2500	-0.0168	-0.0327	-0.0373	-0.0212	-0.0108	-0.0046	-0.0028	
5000	-0.0242	-0.0366	-0.0516	-0.0250	-0.0123	-0.0054	-0.0059	
8600	-0.0271	-0.0413	-0.0589	-0.0340	-0.0151	-0.0066	-0.0045	
22500	-0.0227	-0.0566	-0.0794	-0.0482	-0.0203	-0.0089	-0.0025	
50000	-0.5930	-0.0592	-0.0793	-0.0527	-0.0182	-0.0079	-0.0718	
100500	-0.1991	0.1521	-0.0865	-0.0542	-0.0196	-0.0086	0.0247	
250100	-0.0236	-0.0823	-0.0849	-0.0539	-0.0192	-0.0088	0.0005	

Table G-30. Maximum peak transverse displacements in subgrade (TS702C6)

704C6		Transverse Displacement (mm)						
Depth (mm)		76	187	305	457	616	756	914
Reps		Position 1						
0	1.7046	0.0098	0.0035	0.0063	0.0098	0.0078	0.0054	
500	1.8456	0.0085	0.0030	0.0073	0.0077	0.0042	0.0209	
1000	1.4705	0.0091	0.2082	0.0069	0.0080	0.0063	0.0073	
2500	2.2547	0.0070	0.0058	0.0067	0.0080	0.0052	0.0058	
5000	2.1344	0.0059	0.0063	0.0062	0.0107	0.0072	0.0064	
8600	5.5174	0.0098	0.0039	0.0094	0.0079	0.0081	0.0060	
22500	4.1188	0.0111	0.0068	0.0089	0.0135	0.0089	0.0075	
50000	1.3533	0.0143	0.0051	0.0060	0.0238	0.0108	0.0075	
100500	1.6571	-0.0191	0.0028	0.0049	0.0226	0.0058	0.0095	
250100	4.9092	0.0020	0.0057	0.0100	0.0170	0.0103	0.0071	
Reps		Position 2						
0	1.3155	0.0415	0.0231	0.0199	0.0202	0.0144	0.0080	
500	3.2626	0.0096	0.0119	0.0149	0.0163	0.0106	0.0076	
1000	1.7939	0.0238	0.0158	0.0165	0.0179	0.0085	0.0063	
2500	3.4253	0.0084	0.0064	0.0089	0.0093	0.0073	0.0053	
5000	3.0207	0.0136	0.0110	0.0167	0.0160	0.0101	0.0064	
8600	5.4313	0.0118	0.0071	0.0131	0.0136	0.0081	0.0061	
22500	5.3945	0.0269	0.0235	0.0296	0.0295	0.0166	0.0070	
50000	1.4944	0.1259	0.0834	0.0601	0.0558	0.0272	0.0145	
100500	1.9823	0.1583	0.1347	0.0683	0.0566	0.0284	0.0129	
250100	2.1180	0.0512	0.0284	0.0333	0.0242	0.0164	0.0001	
Reps		Position 3						
0	22.3937	0.0481	0.0277	0.0243	0.0251	0.0160	0.0085	
500	25.3456	0.0254	0.0219	0.0206	0.0204	0.0121	0.0065	
1000	26.4860	0.0280	0.0189	0.0198	0.0201	0.0127	0.0074	
2500	27.5688	0.0090	0.0102	0.0100	0.0111	0.0066	0.0043	
5000	23.5270	0.0201	0.0211	0.0180	0.0194	0.0143	0.0083	
8600	51.9453	0.0180	0.0209	0.0185	0.0190	0.0121	0.0069	
22500	56.3692	0.0258	0.0342	0.0282	0.0294	0.0159	0.0069	
50000	24.0525	0.0859	0.0700	0.0683	0.0504	0.0295	0.0135	
100500	25.5288	0.4980	0.0780	0.0685	0.0520	0.0289	0.0131	
250100	32.9243	0.0423	0.0376	0.0241	0.0224	0.0163	0.0079	

TableG-31. Maximum peak vertical dynamic strains in 704C1

704C1		Vertical Strain (μstrain)						
Depth (mm)		133	241	370	530	687	830	983
Reps		Position 1						
0		-1135	-2155	-1436	-916	-697	-417	-220
500		-1026	-2250	-1514	-954	-730	-436	-219
1000		-1058	-2432	-1600	-1005	-754	-441	-220
2500		-1334	-3159	-1962	-1208	-889	-504	-244
5000		-1474	-3745	-2199	-1384	-984	-557	-267
10900		-1553	-4740	-2653	-1669	-1148	-641	-298
23947		-1429	-4436	-2631	-1670	-1124	-603	-281
Reps		Position 2						
0		-1385	-3049	-2084	-1204	-917	-543	-284
500		-1272	-3075	-2107	-1207	-902	-525	-277
1000		-1353	-3417	-2293	-1298	-967	-553	-289
2500		-1665	-4361	-2787	-1568	-1117	-632	-327
5000		-1854	-5322	-3264	-1836	-1288	-727	-360
10900		-1930	-6655	-3888	-2208	-1509	-844	-404
23947		-1935	-6332	-3925	-2212	-1477	-780	-363
Reps		Position 3						
0		-1310	-2977	-2072	-1150	-890	-529	-290
500		-1189	-2845	-2000	-1083	-839	-486	-262
1000		-1296	-3233	-2198	-1209	-910	-528	-282
2500		-1537	-3954	-2614	-1409	-1039	-604	-318
5000		-1717	-4799	-3025	-1655	-1190	-679	-358
10900		-1798	-5987	-3590	-1974	-1376	-767	-393
23947		-1753	-5870	-3781	-2069	-1394	-760	-378

Table G-32. Maximum peak longitudinal strain (A) in subgrade (TS704C1)

704C1		Longitudinal Strain (μ strain)					
Depth (mm)	76	191	292	448	613	762	899
Reps		Position 1					
0	-1848	-599	-158	-115	-44	-34	-22
500	-1471	-580	-182	-122	-57	-44	-26
1000	-1227	-616	-197	-129	-65	-33	-18
2500	-471	-854	-267	-173	-79	-46	-26
5000	-1355	-976	-292	-207	-89	-51	-33
10900	-192728	-1312	-410	-278	-126	-56	-44
23947	-1061	-1327	-464	-319	-134	-85	-41
Reps		Position 2					
0	-1429	-741	-220	-110	-58	-30	-31
500	-1114	-656	-226	-112	-54	-26	-27
1000	-726	-768	-256	-141	-68	-39	-33
2500	-1335	-1002	-343	-186	-88	-47	-28
5000	-855	-1217	-393	-238	-103	-51	-33
10900	-1276	-1576	-524	-305	-118	-62	-31
23947	-969	-1674	-688	-388	-163	-79	-54
Reps		Position 3					
0	-842	-631	-199	-95	-51	-30	-22
500	-1157	-556	-194	-92	-49	-30	-23
1000	-1144	-649	-234	-113	-47	-30	-23
2500	-1310	-849	-305	-143	-74	-33	-28
5000	-1008	-1030	-369	-178	-81	-47	-27
10900	-1188	-1293	-475	-243	-104	-54	-29
23947	-1480	-1434	-643	-315	-128	-62	-42

Table G-33. Maximum peak longitudinal strains (B) in subgrade (TS704C1)

704C1		Longitudinal Strain (μ strain)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0	2445	1054	630	354	257	184	94	
500	1833	1121	658	376	262	174	100	
1000	2966	1199	718	405	268	203	110	
2500	3224	1689	917	522	340	235	112	
5000	3771	2064	1097	620	385	259	125	
10900	165712	2586	1384	799	452	306	141	
23947	3218	2430	1505	808	462	285	124	
Reps		Position 2						
0	2933	1440	806	447	309	209	124	
500	9082	1446	828	460	323	218	119	
1000	3611	1601	921	506	340	226	116	
2500	3840	2263	1217	663	408	278	144	
5000	4186	2884	1478	806	492	329	166	
10900	5355	3719	1885	1035	604	387	197	
23947	3607	3641	2030	1078	597	380	170	
Reps		Position 3						
0	8728	1367	776	439	307	213	125	
500	3396	1284	753	412	291	200	116	
1000	3174	1495	865	465	323	216	119	
2500	8290	2017	1108	584	391	256	141	
5000	4729	2630	1349	726	443	295	157	
10900	5847	3332	1724	917	523	339	184	
23947	5973	3447	1888	1002	574	369	185	

Table G-34. Maximum peak longitudinal strains (C) in subgrade (TS704C1)

704C1		Longitudinal Strain (μ strain)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0		-1408	-92	-93	-47	-30	-30	-15
500		-1920	-103	-100	-62	-46	-33	-15
1000		-1251	-118	-112	-56	-50	-30	-16
2500		-1276	-213	-151	-77	-48	-34	-16
5000		-1355	-312	-192	-100	-61	-42	-24
10900		-3040	-360	-248	-126	-81	-50	-27
23947		-1061	-292	-179	-107	-78	-45	-41
Reps		Position 2						
0		-4075	-162	-123	-71	-51	-36	-19
500		-1738	-179	-146	-80	-51	-37	-18
1000		-748	-197	-156	-88	-64	-48	-16
2500		-1582	-311	-224	-113	-76	-37	-18
5000		-1566	-421	-288	-160	-96	-56	-29
10900		-3078	-512	-362	-205	-113	-73	-26
23947		-1375	-526	-299	-195	-131	-69	-56
Reps		Position 3						
0		-1049	-156	-136	-84	-58	-34	-16
500		-1313	-160	-134	-84	-55	-38	-18
1000		-1409	-196	-154	-93	-66	-46	-15
2500		-1461	-285	-207	-110	-66	-45	-21
5000		-1728	-390	-266	-162	-100	-63	-23
10900		-1253	-491	-338	-204	-125	-78	-31
23947		-1652	-437	-342	-196	-118	-43	-42

Table G-35. Maximum peak transverse strains in subgrade (TS704C1)

704C1		Transverse Strains (μ strain)						
Depth (mm)		76	191	292	448	613	762	899
Reps		Position 1						
0	6390	87	182	153	116	86	75	
500	3573	129	239	188	116	77	66	
1000	255	131	220	171	127	104	89	
2500	7211	259	307	177	137	116	98	
5000	2585	369	341	241	154	108	94	
10900	5467	480	427	304	182	126	76	
23947	5698	358	440	293	178	104	89	
Reps		Position 2						
0	2814	775	570	342	244	157	124	
500	5091	745	585	350	235	159	122	
1000	621	845	632	340	229	159	107	
2500	8535	1178	792	477	295	190	116	
5000	6317	1491	903	556	321	193	148	
10900	2453	1741	1071	643	365	233	170	
23947	2635	1628	1072	670	358	210	137	
Reps		Position 3						
0		646	550	338	253	172	127	
500		586	548	336	242	176	109	
1000		714	598	344	258	175	118	
2500		870	756	446	308	201	146	
5000		973	821	508	320	216	157	
10900		1202	970	622	378	241	159	
23947		991	953	637	368	220	155	

Table G-36. Maximum peak vertical strains in subgrade (TS704C2)

704C2		Vertical Strains (μ strain)						
Depth (mm)		137	254	381	533	687	835	989
Reps		Position 1						
0	-1717	-583	-1036	-732	-526	-340	-229	
500	-1859	-1485	-1509	-1502	-1516	-1507	-1501	
1000	-1684	-610	-1513	-1067	-718	-427	-265	
2500	-1806	-729	-2093	-1390	-871	-507	-312	
6000	-1826	-692	-2148	-1425	-897	-513	-317	
13000	-68867	-43591	-2600	-1737	-1059	-576	-337	
22931	-1283	-739	-2381	-1590	-974	-529	-318	
57075	-2075	-801	-3481	-2243	-1360	-681	-401	
125581	-2125	-952	-4465	-2795	-1731	-779	-437	
Reps		Position 2						
0	-1855	-1607	-1600	-1605	-1600	-1607	-1602	
500	-3714	-1341	-2742	-1717	-958	-597	-363	
1000	-3714	-1344	-3025	-1825	-1018	-606	-293	
2500	-3954	-1521	-3823	-2266	-1223	-707	-412	
6000	-4134	-1481	-4123	-2423	-1293	-733	-427	
13000	-4326	-1536	-4974	-2907	-1478	-818	-449	
22931	-3763	-1510	-4423	-2550	-1306	-717	-403	
57075	-4509	-1624	-6008	-3546	-1788	-930	-503	
125581	-4622	-2009	-7448	-4433	-2290	-1064	-570	
Reps		Position 3						
0	-2010	-1604	-1594	-1590	-1599	-1598	-1595	
500	-2875	-1381	-2913	-1823	-963	-635	-369	
1000	-2781	-1402	-3089	-1973	-1028	-660	-383	
2500	-3000	-1521	-3862	-2332	-1182	-714	-417	
6000	-2860	-1465	-4097	-2462	-1244	-743	-424	
13000	-3158	-1550	-4916	-2999	-1431	-840	-445	
22931	-2649	-1360	-3642	-2248	-1069	-643	-369	
57075	-3264	-1571	-5588	-3447	-1647	-856	-478	
125581	-3354	-2311	-6991	-4243	-2151	-1042	-551	

Table G-37. Maximum peak longitudinal strains (A) in subgrade (TS704C2)

704C2		Longitudinal Strains (μ strain)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	-7827	-105	-124	-27	-30	-25	-19	
500	-1379	-1121	-1124	-1135	-1123	-1135	-1128	
1000	-7061	-119	-87	-22	-21	-26	-16	
2500	-6890	-95	-77	-27	-25	-14	-16	
6000	-8199	-157	-177	-28	-17	-15	-17	
13000	-18049	-2164	-202	-7	-9	-7	-10	
22931	-1295	-82	-70	-9	-8	-8	-11	
57075	-123	-155	-190	-6	-23	-11	-7	
125581	-207204	-122	-140	-9	-12	-16	-19	
Reps		Position 2						
0	-1316	-1127	-1110	-1119	-1111	-1115	-1115	
500	-8050	-33	-33	-28	-26	-24	-33	
1000	-12528	-41	-67	-39	-17	-25	-19	
2500	-7242	-28	-46	-24	-25	-34	-11	
6000	-7506	-23	-28	-20	-18	-18	-14	
13000	-821	-13	-14	-13	-9	-10	-10	
22931	-1318	-22	-15	-11	-9	-8	-5	
57075	-47	-36	-49	-10	-15	-8	-9	
125581	-108929	-137	-10	-9	-14	-12	-11	
Reps		Position 3						
0	-1445	-1129	-1140	-1144	-1124	-1115	-1125	
500	-8549	-28	-32	-19	-25	-25	-17	
1000	-6163	-41	-38	-19	-17	-17	-27	
2500	-7336	-30	-36	-19	-23	-13	-20	
6000	-5027	-24	-21	-19	-19	-11	-16	
13000	-3670	-19	-11	-11	-11	-8	-7	
22931	-1206	-18	-12	-13	-10	-11	-12	
57075	-868346	-22	-15	-12	-13	-17	-21	
125581	-277215	-224	-13	-9	-12	-18	-8	

Table G-38. Maximum peak longitudinal strains (B) in subgrade (TS704C2)

704C2		Longitudinal Strains (μstrain)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	7620	38	39	44	27	44	48	
500	2118	1507	1480	1490	1477	1473	1473	
1000	9266	39	65	45	45	52	93	
2500	6314	53	56	59	61	65	88	
6000	4281	59	61	59	50	64	77	
13000	1871	8849	44	55	46	51	83	
22931	1015	31	56	78	35	62	84	
57075	84	91	95	105	55	82	111	
125581	3490	70	121	83	120	90	122	
Reps		Position 2						
0	1779	1321	1296	1292	1294	1293	1313	
500	11178	276	470	446	216	151	126	
1000	8229	260	501	484	238	138	98	
2500	13224	322	637	606	250	176	150	
6000	13128	347	692	645	269	171	143	
13000	3671	357	823	742	285	174	157	
22931	2192	422	858	687	269	169	136	
57075	1474458	349	964	914	356	235	182	
125581	3170	491	1187	926	558	241	177	
Reps		Position 3						
0	2102	1319	1307	1317	1318	1309	1307	
500	9032	280	497	627	316	196	130	
1000	10329	303	543	665	330	225	136	
2500	8189	397	657	806	390	207	152	
6000	6945	445	715	816	391	242	157	
13000	9181	483	876	986	441	247	180	
22931	3801	429	752	757	325	207	133	
57075	43352	509	962	1120	470	268	191	
125581	29104	728	994	1162	657	311	207	

Table G-39. Maximum peak longitudinal strains (C) in subgrade (TS704C2)

704C2		Longitudinal Strains (μstrain)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	-5330	-128	-186	-24	-22	-25	-15	
500	-1492	-1207	-1213	-1212	-1207	-1207	-1204	
1000	-7735	-147	-217	-20	-6	-23	-5	
2500	-7531	-140	-200	-10	-17	-10	0	
6000	-6599	-129	-183	-8	-7	-15	-15	
13000	-4525	-9746	-254	-16	6	-11	-11	
22931	-1489	-148	-191	-1	0	0	0	
57075	-151	-212	-233	-16	5	-15	-9	
125581	-8410	-361	-278	-40	5	24	-16	
Reps		Position 2						
0	-1480	-1287	-1282	-1287	-1278	-1279	-1275	
500	-7832	-16	6	-24	-21	-8	-22	
1000	-5799	-25	-1	-11	-2	-25	-2	
2500	-6734	-16	-6	4	-9	-15	-22	
6000	-3369	-33	-5	-19	-17	-22	-5	
13000	-3730	-25	18	-20	-21	-14	-4	
22931	-5765	-19	5	-7	-6	-6	-7	
57075	-16296	-2	18	-9	6	1	18	
125581	-4066	62	24	-4	24	3	-13	
Reps		Position 3						
0	-1600	-1280	-1279	-1277	-1279	-1282	-1277	
500	-10385	-26	16	-3	-18	-11	-10	
1000	-3765	-33	0	-29	-6	-25	-20	
2500	-5164	-16	1	16	-1	-16	-8	
6000	-6128	-16	10	0	-5	-12	-8	
13000	-11793	-22	11	-10	-13	-6	4	
22931	-5842	-20	16	3	-13	-5	-7	
57075	-864055	-33	-15	-15	-24	-12	-6	
125581	-7250	82	12	6	0	7	19	

Table G-40. Maximum peak transverse strains in subgrade (TS704C2)

704C2		Transverse Strains (μstrain)						
Depth (mm)		76	197	311	451	616	759	911
Reps		Position 1						
0	946	473	614	424	250	183	91	
500	2229	1537	1523	1511	1512	1517	1495	
1000	996	660	943	657	350	201	139	
2500	1212	882	1296	888	456	269	145	
6000	1408	919	1330	922	446	260	147	
13000	1339	12394	1671	1196	567	300	150	
22931	759	1107	1542	1123	528	288	148	
57075	1810	1667	2173	1624	773	368	177	
125581	2135	2198	2807	2080	1262	464	208	
Reps		Position 2						
0	1854	1317	1299	1319	1307	1309	1313	
500	449	957	1486	929	446	255	154	
1000	400	1026	1645	1030	479	283	128	
2500	533	1441	2103	1313	622	339	192	
6000	484	1560	2247	1422	648	349	204	
13000	218	1848	2774	1766	771	386	229	
22931	616	1744	2456	1568	669	337	177	
57075	412	2542	3409	2272	996	470	243	
125581	487	3191	4381	2953	1588	564	269	
Reps		Position 3						
0	2220	1332	1330	1334	1328	1298	1342	
500	3247	1089	1665	953	462	287	145	
1000	1038	1171	1748	1067	505	292	159	
2500	751	1569	2208	1330	584	327	172	
6000	758	1621	2269	1408	622	340	176	
13000	566	1987	2864	1779	743	393	197	
22931	798	1541	2110	1314	524	272	154	
57075	1340	2469	3270	2143	900	393	209	
125581	1455	3387	4221	2705	1470	531	252	

Table G-41. Maximum peak vertical strains in subgrade (TS704C3)

704C3		Vertical Strains (μ strain)						
Depth (mm)		140	256	383	537	689	838	991
Reps		Position 1						
0	-10942	-8630	-15274	-6643	-18060	-17509	-67969	
500	-945	-1729	-1219	-704	-432	-236	-159	
1000	-981	-2002	-1357	-795	-473	-258	-164	
2500	-1076	-2549	-1684	-970	-580	-285	-177	
6000	-1689	-2811	-1878	-1066	-571	-284	-170	
12000	-1191	-3639	-2439	-1350	-692	-323	-187	
25750	-1112	-5017	-2779	-1530	-881	-383	-198	
41800	-1474	-6057	-4465	-2324	-997	-398	-206	
81850	-2312	-11678	-9155	-3634	-1234	-433	-214	
Reps		Position 2						
0	-22545	-51595	-138878	-34569	-33176	-71375	-8643	
500	-1243	-2473	-1579	-903	-564	-315	-192	
1000	-1300	-2777	-1734	-1001	-596	-319	-195	
2500	-1375	-3556	-2150	-1221	-705	-358	-209	
6000	-1476	-4137	-2542	-1414	-781	-373	-216	
12000	-1566	-5005	-3146	-1713	-898	-416	-229	
25750	-1887	-6866	-3721	-2510	-1166	-508	-260	
41800	-1968	-8388	-6090	-3182	-1377	-556	-279	
81850	-2887	-15710	-12969	-5177	-1809	-652	-307	
Reps		Position 3						
0	-15766	-59314	-102949	-41536	-52994	-102849	-92541	
500	-1246	-2448	-1472	-840	-534	-298	-180	
1000	-1306	-2823	-1647	-932	-579	-318	-192	
2500	-1406	-3429	-1974	-1108	-656	-353	-202	
6000	-1427	-3998	-2345	-1309	-733	-362	-204	
12000	-1503	-4642	-2749	-1489	-818	-383	-211	
25750	-1822	-6600	-4161	-2247	-1087	-476	-253	
41800	-1886	-7958	-5445	-2849	-1278	-526	-261	
81850	-2647	-14151	-10648	-4264	-1549	-586	-275	

Table G-42. Maximum peak longitudinal strains (A) in subgrade (TS704C3)

704C3		Longitudinal Strains (μ strain)						
Depth (mm)		76	203	308	457	616	762	914
Reps		Position 1						
0	-175344	-18001	-2472	-12234	-8219	-9730	243	
500	-4445	-254	-172	-92	-50	-31	18	
1000	-6495	-306	-200	-108	-58	-29	12	
2500	-6084	-370	-245	-144	-104	-40	45	
6000	-25716	-452	-286	-160	-82	-37	-2	
12000	-4222	-558	-363	-194	-101	-38	0	
25750	-513713	-767	-599	-253	-138	-62	-49	
41800	-828094	-860	-723	-375	-169	-65	-57	
81850	-739731	-1090	-1171	-722	-512	-78	-52	
Reps		Position 2						
0	-21741	-85922	-137587	-62031	-28018	-106241	-6868	
500	-1359	-17	-11	-20	-12	-17	-54	
1000	-1523	-36	-33	-32	-29	-18	-57	
2500	-1814	-50	-51	-35	-31	-17	-19	
6000	-1589	-34	-30	-22	-23	-13	-16	
12000	-1846	-39	-31	-32	-20	-22	-6	
25750	-3166	-56	-53	-42	-42	-20	-17	
41800	-99	-74	-69	-44	-40	-35	-23	
81850	-3921	-116	-122	-85	-64	-28	-27	
Reps		Position 3						
0	-3767	-101690	-89798	-59911	-62870	-127023	-117883	
500	-2467	-28	-20	-17	-18	-16	-8	
1000	-2011	-33	-25	-21	-21	-16	-89	
2500	-1741	-70	-57	-34	-22	-38	-41	
6000	-1645	-34	-31	-18	-21	-19	-11	
12000	-1810	-42	-23	-28	-21	-12	-15	
25750	-3700	-48	-56	-37	-35	-39	-19	
41800	-2189	-62	-55	-44	-32	-16	-22	

81850	-4437	-102	-73	-90	-68	-39	-26
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Table G-43. Maximum peak longitudinal strains (B) in subgrade (TS704C3)

704C3		Longitudinal Strains (μ strain)						
Depth (mm)	Reps	76	203	308	457	616	762	914
		Position 1						
0	289469	-16657	3024	-7463	-6918	-1236	10462	
500	2032	148	100	126	103	66	163	
1000	747	1055	705	369	245	144	167	
2500	1602	1376	913	473	263	156	423	
6000	1027	1596	1011	495	295	160	207	
12000	2168	1633	1216	595	332	185	113	
25750	3724	886	1114	490	272	167	63	
41800	312402	2073	1680	873	417	211	64	
81850	56069	5646	4797	1503	248	217	66	
		Position 2						
0	24902	11995	22622	10017	31856	14233	50733	
500	3766	1228	734	386	274	178	70	
1000	2447	1397	869	458	290	167	21	
2500	1886	1829	1094	555	343	181	192	
6000	1293	2207	1349	653	376	203	230	
12000	1407	2748	1722	811	442	222	130	
25750	374026	3757	2161	1276	614	273	117	
41800	145841	4592	3645	1675	727	314	133	
81850	775211	8914	8429	3120	788	397	145	
		Position 3						
0	89068	12729	16564	9312	25326	16085	14722	
500	94677	1120	709	380	237	153	76	
1000	59139	1371	831	429	270	157	24	
2500	326759	1664	980	496	280	147	357	
6000	36552	2016	1263	616	353	181	125	
12000	1914	2398	1510	718	395	190	95	
25750	4158	3536	2454	1165	567	244	118	

41800	576200	4211	3290	1508	647	283	113
81850	123317	7763	6903	2704	661	330	142

Table G-44. Maximum peak longitudinal strains (C) in subgrade (TS704C3)

704C3		Longitudinal Strains (μstrain)						
Depth (mm)	Reps	76	203	308	457	616	762	914
0	-230584	-45218	-3582	-9337	-31061	-29687	-24728	
500	-6684	-254	-172	-92	-50	-31	20	
1000	-6495	-306	-200	-108	-58	-30	9	
2500	-6084	-370	-245	-144	-104	-40	60	
6000	-25716	-452	-286	-160	-82	-37	26	
12000	-6419	-558	-363	-194	-101	-38	0	
25750	-730527	-767	-599	-253	-138	-62	-49	
41800	-828094	-860	-723	-375	-169	-65	-57	
81850	-739731	-1090	-1171	-722	-512	-78	-52	
Reps								
0	-156553	-80556	-110159	-89037	-86599	-40061	-5365	
500	-6761	-337	-192	-87	-36	-25	-61	
1000	-7537	-403	-241	-129	-73	-30	-125	
2500	-8064	-514	-306	-172	-84	-168	16	
6000	-9091	-621	-371	-164	-84	-36	22	
12000	-9360	-747	-479	-196	-95	-49	3	
25750	-771970	-1022	-630	-328	-163	-65	-35	
41800	-6171	-1154	-920	-431	-189	-80	-25	
81850	-1211428	-1724	-1425	-756	-574	-83	-42	
Reps								
0	-1747	-89252	-97383	-82548	-100264	-60704	-75704	
500	-152772	-332	-181	-73	-45	-29	-9	
1000	-229089	-364	-191	-136	-74	-42	-138	
2500	-258387	-481	-289	-179	-102	-62	52	
6000	-64619	-560	-344	-156	-69	-32	13	
12000	-8482	-656	-419	-212	-71	-36	-29	

25750	-12408	-940	-678	-252	-121	-70	-22
41800	-111750	-1045	-808	-331	-152	-61	-52
81850	-1191913	-1307	-1249	-615	-499	-77	-38

Table G-45. Maximum peak transverse strains in subgrade (TS704C3)

704C3		Transverse Strains (μstrain)					
Depth (mm)	76	203	308	457	616	762	914
Reps		Position 1					
0	30601	-14570	6506	-6729	-11519	-2625	9151
500	4600	105	190	149	127	73	36
1000	5891	147	231	185	160	84	55
2500	71	258	298	220	145	93	49
6000	72	250	325	239	180	124	49
12000	102	400	398	284	205	92	45
25750	57	586	534	304	259	127	56
41800	114	759	623	476	289	135	67
81850	72	1054	464	644	333	133	88
Reps		Position 2					
0	-1376	860	45	-4475	-6970	6588	-3937
500	4619	529	391	268	234	131	67
1000	8213	654	470	326	253	133	71
2500	1059	793	610	375	289	154	75
6000	7153	982	701	432	321	175	74
12000	1483	1100	832	514	370	189	98
25750	13217	1547	893	721	468	215	96
41800	3317	1818	1349	888	547	234	104
81850	27762	2524	2095	1358	775	301	118
Reps		Position 3					
0	73513	399	-2620	-3980	-5570	4312	2784
500	88731	508	419	242	220	132	87
1000	99875	587	461	293	240	140	78
2500	622	669	532	366	294	150	83
6000	1152	838	647	409	308	158	97

12000	749	883	706	450	332	163	102
25750	1492	1240	980	647	449	224	101
41800	5270	1402	1203	789	508	218	92
81850	2521	1993	1722	995	646	248	102

Table G-46. Maximum peak vertical strains in subgrade (TS704C4)

704C4		Vertical Strains (μ strain)					
Depth (mm)	137	251	379	538	692	838	991
Reps		Position 1					
0	-547	-200	-3819	-1923	-1249	-818	-539
1000	-658	-71	-4640	-2767	-2534	-812	-551
2500	-924	-73	-6090	-4032	-2732	-1027	-668
5000	-1188	20	-8241	-5726	-3797	-1379	-829
Reps		Position 2					
0	-3679	-1154	-5400	-2880	-1536	-930	-620
1000	-4254	-1319	-8398	-4616	-3417	-1213	-734
2500	-4761	-1495	-10884	-6611	-3751	-1510	-866
5000	-5464	-1556	-14360	-9490	-5372	-1989	-1017
Reps		Position 3					
0	-2713	-1435	-4792	-2645	-1538	-924	-517
1000	-3319	-1510	-7964	-4388	-3175	-1165	-691
2500	-3691	-1635	-9903	-6288	-3537	-1474	-824
5000	-4367	-1794	-12941	-9144	-4864	-1960	-1052

Table G-47. Maximum peak longitudinal strains (A) in subgrade (TS704C4)

704C4		Longitudinal Strains (μ strain)						
Depth (mm)		76	197	305	454	622	762	914
Reps		Position 1						
0		-4199	-339	-753	-227	-91	-45	-42
1000		-4754	-486	-942	-549	-234	-65	-56
2500		-4322	-604	-1141	-951	-381	-103	-32
5000		-4931	-819	-1620	-1462	-1048	-256	-22
Reps		Position 2						
0		-2656	-161	-357	-117	-42	-27	-19
1000		-3573	-237	-559	-396	-129	-55	-21
2500		-3535	-344	-720	-674	-271	-97	-32
5000		-3016	-360	-912	-1041	-679	-224	-14
Reps		Position 3						
0		-2761	-49	-118	-54	-49	-37	-31
1000		-3661	-93	-233	-172	-44	-35	-33
2500		-4641	-131	-318	-304	-41	-64	-32
5000		-2884	-183	-409	-411	-261	-114	-38

Table G-48. Maximum peak longitudinal strains (B) in subgrade (TS704C4)

704C4		Longitudinal Strains (μ strain)						
Depth (mm)		76	197	305	454	622	762	914
Reps		Position 1						
0		3842	816	1522	705	297	359	230
1000		2940	1135	2088	1558	709	448	268
2500		3865	1572	2744	2194	975		
5000		5332	2274	3803	3349	1420	630	314

Reps	Position 2						
0	4645	983	1733	797	343	291	96101
1000	4205	1857	3010	2021	975	458	187372
2500	3127	2526	3882	2982	1293	620	34100
5000	3667	3375	5301	4745	1884	869	20461
Reps	Position 3						
0	6483	731	1306	638	312	298	226331
1000	5994	1516	2628	1787	857	437	112677
2500	4185	2044	3298	2653	1166	546	77862
5000	5642	2542	4437	4273	1564	749	135310

Table G-49. Maximum peak longitudinal strains (C) in subgrade (TS704C4)

704C4		Longitudinal Strains (μ strain)					
Depth (mm)	76	197	305	454	622	762	914
Reps	Position 1						
0	-5159	23	22	-5	-44	-37	-58592
1000	-2045	5	7	10	-29	15	-48
2500	-4272	37	11	20	-11	-18	-33269
5000	-4555	18	27	16	19	-13	-37
Reps	Position 2						
0	-4241	18	-55	-53	-58	-14	-9
1000	-2494	-12	-179	-85	-33	-37	-56
2500	-4167	-3	-223	-78	-48	-51	-12859
5000	-3133	19	-282	-155	21	-7	-24986
Reps	Position 3						
0	-2233	-16	-207	-107	-66	-28	-34
1000	-2693	-108	-545	-227	-96	-54	-55
2500	-4600	-116	-560	-315	-103	-79	-74820

Table G-50. Maximum peak transverse strains in subgrade (TS704C4)

		Transverse Strains (μ strain)					
Depth (mm)	76	197	305	454	622	762	914
Reps	Position 1						
0	4444	613	1057	428	291	224	
1000	3184	853	1444	756	611	185	
2500	3175	907	1886	1049	745	260	
5000	1371	1130	2538	1266	905	272	

Reps	Position 2					
0	1963	611	904	585	441	288
1000	3265	853	1339	1168	896	419
2500	5080	974	1675	1587	1115	487
5000	4626	1089	2074	1928	1491	555
Reps	Position 3					
0	32603	343	507	480	389	264
1000	30533	482	894	1041	720	390
2500	34447	449	1027	1320	900	436
5000	28294	242	961	1421	1178	512

Table G-51. Maximum peak vertical strains in subgrade (TS704C5)

Depth (mm)	704C5	Vertical Strains (μ strain)					
Reps	132	243	378	538	692	840	991
Reps	Position 1						
0	-889	-727	-380	-301	-205	-123	-97
500	-916	-981	-530	-395	-241	-120	-112
1000	-1048	-1090	-592	-435	-264	-136	-110
2500	-969	-1150	-623	-455	-259	-132	-114
5000	-1143	-1332	-752	-532	-298	-145	-119
10000	-1091	-1491	-850	-573	-318	-145	-119
25000	-1199	-1912	-1123	-714	-376	-166	-140
50000	-1273	-2019	-1080	-719	-378	-170	-132
117340	-1268	-1943	-1095	-764	-420	-185	-147
250000	-1173	-1584	-1010	-706	-389	-184	-138
505281	-1116	-980	-678	-501	-310	-161	-126
780122	-1118	-796	-544	-427	-273	-142	-123
Reps	Position 2						
0	-720	-1005	-553	-425	-245	-137	-121
500	-710	-1243	-717	-524	-288	-154	-140
1000	-843	-1373	-807	-562	-310	-156	-134
2500	-800	-1415	-843	-588	-320	-159	-134
5000	-916	-1664	-1008	-678	-359	-176	-156
10000	-908	-1828	-1131	-730	-369	-186	-148
25000	-1017	-2307	-1431	-905	-450	-207	-160
50000	-1083	-2615	-1516	-959	-473	-212	-163
117340	-1025	-2420	-1448	-986	-502	-221	-173
250000	-1006	-1954	-1338	-918	-486	-232	-180
505281	-1062	-1479	-1098	-762	-425	-210	-176
780122	-998	-1217	-898	-614	-349	-188	-157
Reps	Position 3						

0	-481	-970	-537	-431	-227	-138	-129
500	-627	-1108	-654	-483	-271	-156	-134
1000	-753	-1226	-730	-535	-291	-152	-131
2500	-751	-1268	-777	-535	-280	-152	-132
5000	-814	-1507	-931	-633	-335	-165	-143
10000	-805	-1600	-1012	-670	-341	-170	-146
25000	-943	-2034	-1279	-831	-407	-182	-152
50000	-964	-2356	-1413	-902	-445	-195	-162
117340	-926	-2139	-1325	-897	-458	-211	-165
250000	-865	-1646	-1179	-805	-430	-212	-170
505281	-958	-1361	-1061	-744	-407	-207	-170
780122	-918	-1092	-843	-589	-338	-174	-149

Table G-52. Maximum peak longitudinal strains (A) in subgrade (TS704C5)

0	-6	-7	-10	-42	-17	-23	-12
500	-6	-30	-18	-27	-31	-25	-13
1000	-10	-9	-11	-18	-13	-16	-19
2500	-7	-12	-14	-13	-15	-10	-11
5000	-18	-22	-11	-21	-11	-13	-16
10000	-9	-6	-16	-14	-10	-10	-9
25000	-17	-6	-16	-11	-14	-12	-9
50000	-18	-20	-23	-15	-14	-15	-12
117340	-21	-14	-12	-7	-8	-10	-7
250000	-15	-19	-15	-19	-22	-21	-14
505281	-13	-16	-19	-20	-21	-15	-15
780122	-18	-16	-10	-10	-14	-16	-12

Table G-53. Maximum peak longitudinal strains (B) in subgrade (TS704C5)

0	492	387	274	185	116	92	42
500	457	457	306	166	127	77	34
1000	523	543	325	184	130	82	56
2500	508	595	358	201	143	89	55
5000	532	743	429	233	169	73	57
10000	574	812	464	251	154	78	55
25000	730	1091	610	334	206	88	62
50000	834	1251	683	388	221	105	61
117340	887	1197	638	382	225	113	61
250000	896	1081	550	329	214	101	67
505281	902	936	505	307	201	87	54
780122	789	745	394	245	145	98	59

Table G-54. Maximum peak longitudinal strains (C) in subgrade (TS704C5)

Depth (mm)	Longitudinal Strains (μ strain)						
	76	187	298	457	619	765	914
Reps	Position 1						
0	-124	-68	-62	-26	-53	-25	-35
500	-118	-102	-60	-56	-32	-1	-6
1000	-114	-125	-56	-61	-29	-18	-7
2500	-102	-113	-87	-61	-45	-20	-25
5000	-112	-157	-84	-63	-38	-15	-24
10000	-126	-178	-95	-77	-36	-37	-13
25000	-134	-234	-137	-85	-44	-36	-12
50000	-179	-260	-138	-107	-41	-35	-16
117340	-217	-275	-130	-102	-54	-29	-19
250000	-210	-259	-138	-97	-48	-12	-14
505281	-171	-156	-96	-63	-48	-23	-14
780122	-177	-127	-63	-62	-47	-25	2
Reps	Position 2						
0	-126	-159	-86	-30	-33	-15	-14
500	-105	-219	-90	-54	-24	-2	-13
1000	-117	-219	-81	-73	-50	2	-30
2500	-92	-227	-96	-71	-43	-21	-29
5000	-119	-273	-111	-78	-32	-33	-27
10000	-128	-297	-131	-93	-38	-15	-17
25000	-162	-392	-175	-116	-43	-26	-12
50000	-204	-456	-202	-118	-57	-26	-17
117340	-230	-431	-208	-129	-68	-32	-14
250000	-232	-426	-185	-119	-64	-23	-13
505281	-245	-313	-165	-104	-66	-37	-15

780122	-207	-250	-108	-62	-40	-20	-15
Reps							
			Position 3				
0	-54	-188	-41	-34	-38	-24	-15
500	-88	-230	-70	-52	-36	-45	-28
1000	-109	-232	-90	-62	-47	-21	-19
2500	-81	-232	-95	-55	-40	-17	-16
5000	-97	-279	-116	-70	-34	-33	-11
10000	-121	-306	-125	-73	-45	-26	-12
25000	-156	-388	-179	-94	-52	-26	-18
50000	-194	-453	-198	-96	-56	-20	-18
117340	-192	-448	-184	-94	-53	-26	-17
250000	-216	-414	-168	-111	-68	-46	-20
505281	-231	-354	-173	-105	-63	-50	-23
780122	-208	-292	-113	-71	-54	-22	-13

Table G-55. Maximum peak transverse strains in subgrade (TS704C5)

Depth (mm)	Transverse Strain (μstrain)						
	76	187	298	457	619	765	914
Reps							
0	4473	41	44	59	31	24	38
500	6418	59	50	50	7	36	46
1000	7022	43	43	51	43	35	27
2500	6901	60	61	57	60	52	47
5000	7984	76	54	51	38	29	38
10000	7530	66	60	79	23	24	45
25000	8268	99	69	94	46	39	46
50000	8512	133	56	78	31	24	51
117340	10397	108	77	78	65	40	49
250000	11517	51	44	89	44	33	36
505281	11467	10	33	47	29	34	27
780122	11538	13	6	48	43	51	49
Reps							
		Position 2					
0	7042	181	150	123	87	55	51
500	9266	206	183	145	92	49	51
1000	9776	234	218	157	92	32	46
2500	10404	260	225	171	86	62	51
5000	11245	315	233	186	93	59	48
10000	10843	320	256	179	111	49	57
25000	11983	400	295	207	117	52	69
50000	12130	494	322	225	120	64	63
117340	14033	390	303	209	121	61	56
250000	16536	348	281	211	122	67	56
505281	18403	298	216	169	105	62	58

780122	18489	246	169	154	74	49	76
Reps			Position 3				
0	8336	96	188	161	97	64	59
500	9942	170	190	140	82	72	37
1000	10709	210	204	182	106	64	56
2500	9987	202	238	160	106	55	61
5000	11532	221	255	199	118	70	55
10000	10774	218	263	200	121	52	47
25000	11760	274	319	234	131	67	54
50000	12612	346	346	229	131	77	48
117340	14317	269	301	227	120	64	37
250000	16354	291	292	222	165	69	80
505281	18736	278	263	202	134	70	75
780122	17899	214	202	166	92	62	49

Table G-56. Maximum peak vertical strains in subgrade (TS704C6)

704C6		Vertical Strains (μ strain)					
Depth (mm)	132	246	381	537	686	835	991
Reps			Position 1				
0	-1116	-603	-898	-584	-391	-270	-117
500	-968	-639	-1181	-601	-468	-309	-439
1000	-1129	-671	-2043	-817	-510	-331	-133
2500	-892	-714	-1573	-1004	-569	-367	-139
5000	-1128	-763	-1700	-1086	-615	-383	-145
8600	-1035	-809	-1937	-1267	-702	-438	-172
22500	-1082	-862	-2557	-1685	-843	-486	-189
50000	-979	-812	-2197	-1634	-780	-449	-165
100500	-26377	-1361	-2346	-1727	-798	-292	-187
250100	-1128	-1077	-2056	-1441	-769	-489	-204
Reps			Position 2				
0	-3861	-904	-1599	-984	-571	-382	-172
500	-2703	-802	-2084	-1233	-678	-441	-183
1000	-3893	-1015	-2307	-1340	-728	-459	-189
2500	-3967	-1148	-2727	-1602	-838	-511	-213
5000	-4217	-1132	-2899	-1750	-912	-545	-209
8600	-4388	-1223	-3331	-1958	-1010	-608	-239
22500	-10935	-1341	-4235	-2628	-1258	-720	-265
50000	-9929	-1295	-3939	-2769	-1267	-715	-277
100500	-74702	-1417	-4207	-2789	-1242	-713	-295
250100	-23257	-1428	-3663	-2334	-1135	-711	-1942

Reps	Position 3						
0	-4668	-806	-1617	-1017	-566	-399	-186
500	-2828	-931	-2080	-1239	-687	-382	-163
1000	-2697	-994	-2323	-1439	-721	-498	-220
2500	-3349	-1059	-2693	-1638	-853	-553	-224
5000	-3297	-1069	-2859	-1731	-873	-565	-226
8600	-3435	-1151	-3255	-2032	-1012	-634	-254
22500	-3758	-1274	-4185	-2607	-1228	-724	-281
50000	-4408	-1191	-4074	-2800	-1208	-736	-298
100500	-3488	-490	-4032	-2805	-1181	-704	-321
250100	-3666	-1321	-3531	-2309	-1096	-731	-342

Table G-57. Maximum peak longitudinal strains (A) in subgrade (TS702C6)

704C6		Longitudinal Strain (μstrain)					
Depth (mm)	76	187	305	457	616	756	914
Reps	Position 1						
0	-104	-87	-168	-74	-30	-30	-12
500	-91	-97	-210	-65	-55	-27	24
1000	-107	-125	-868	-105	-64	-35	-25
2500	-89	-160	-290	-145	-79	-38	-18
5000	-236	-204	-369	-159	-88	-40	-42
8600	-218	-201	-414	-202	-104	-47	-46
22500	-221	-286	-599	-286	-134	-60	-34
50000	-246	-290	-586	-286	-127	-39	-214
100500	-3158	-685	-674	-320	-131	-34	-213
250100	-229	-559	-662	-331	-122	-66	-29
Reps	Position 2						
0	-22	-18	-15	-11	-13	-11	-9
500	-32	-24	-11	-8	-10	-11	-14
1000	-15	-17	-12	-9	-15	-13	-17
2500	-14	-18	-9	-9	-4	-7	-15
5000	-19	-23	-12	-15	-8	-11	-23
8600	-22	-16	-11	-10	-10	-14	-20
22500	-16	-24	-14	-14	-9	-17	-23
50000	-24	-25	-21	-13	-16	-14	-319
100500	-332	-13	-11	-20	-15	-16	-67

250100	-38	-22	-25	-33	-31	-13	-88
Reps							
				Position 3			
0	-1573	-21	-24	-8	-16	-5	-12
500	-17	-14	-14	-12	-10	-13	-11
1000	-19	-18	-9	-18	-14	-10	-19
2500	-18	-18	-12	-14	-8	-6	-14
5000	-24	-20	-11	-13	-12	-8	-19
8600	-22	-16	-15	-13	-13	-10	-22
22500	-24	-25	-15	-28	-16	-12	-17
50000	-9	-20	-15	-10	-16	-9	-273
100500	-190	-399	-18	-12	-16	-12	-52
250100	-50	-44	-13	-14	-11	-9	-9

Table G-58. Maximum peak longitudinal strains (B) in subgrade (TS702C6)

704C6		Longitudinal Strains (μstrain)						
Depth (mm)		76	187	305	457	616	756	914
Reps								
				Position 1				
0	563	66	2	61	51	34	43	
500	110	7	11	12	2	6	215	
1000	229	4	969	17	5	6	10	
2500	18	6	11	8	4	4	10	
5000	8	1	8	7	5	4	2	
8600	13	8	9	11	8	11	4	
22500	718	29	8	8	8	46	34	
50000	1355	1249	1244	961	378	186	-31	
100500	3636	1076	1658	1092	442	99	159	
250100	1561	769	226	494	257	128	104	
Reps								
				Position 2				
0	695	617	738	424	212	117	68	
500	583	683	1039	584	274	148	83	
1000	848	905	1150	644	292	155	84	
2500	1416	1090	1409	786	352	172	78	
5000	745	1234	1509	868	388	189	69	
8600	1181	1506	1819	1014	455	221	85	
22500	473	2065	2419	1481	605	265	107	
50000	2103	2175	2196	1538	631	274	63	
100500	4642	2211	2455	1562	628	284	98	

250100	438	2328	2240	1294	560	307	10
Reps							
				Position 3			
0	2331	624	707	391	191	114	63
500	3406	727	934	514	269	104	64
1000	2765	874	1087	623	277	146	74
2500	3146	1053	1311	732	349	167	83
5000	3545	1103	1418	777	355	173	69
8600	9880	1370	1700	985	439	203	92
22500	8644	1863	2280	1333	566	243	126
50000	2148	1958	2218	1426	577	258	56
100500	3587	3535	2254	1427	577	247	479
250100	7626	2167	2013	1163	546	254	186

Table G-59. Maximum peak longitudinal strains (C) in subgrade (TS702C6)

704C6							
Depth (mm)	Longitudinal Strains (μ strain)						
	76	187	305	457	616	756	914
Reps							
0	-404	-87	-168	-74	-30	-30	-12
500	-541	-97	-210	-65	-55	-27	-875
1000	-2142	-125	-1033	-105	-64	-35	-25
2500	-89	-160	-342	-145	-79	-38	-18
5000	-1012	-204	-375	-159	-88	-40	-42
8600	-634	-201	-432	-203	-104	-47	-46
22500	-783	-286	-599	-286	-134	-60	-34
50000	-518	-290	-586	-286	-127	-39	-282
100500	-3158	-685	-674	-320	-131	-49	-271
250100	-3230	-559	-662	-331	-122	-66	-14
Reps							
				Position 2			
0	-4492	-139	-195	-92	-63	-25	-8
500	-3970	-157	-277	-117	-69	-33	-22
1000	-4727	-178	-302	-130	-78	-39	-22
2500	-4325	-230	-383	-177	-90	-42	-27
5000	-4076	-274	-437	-197	-104	-41	-44
8600	-4003	-314	-526	-245	-122	-53	-39
22500	-10133	-407	-679	-357	-170	-83	-47

50000	-7001	-419	-684	-388	-163	-71	-503
100500	-187	-484	-769	-416	-174	-72	-120
250100	-20204	-575	-758	-423	-178	-60	-1430
Reps							
				Position 3			
0	-3008	-150	-167	-68	-55	-20	-14
500	-1851	-154	-225	-100	-54	-33	-14
1000	-2057	-169	-253	-122	-69	-37	-29
2500	-1609	-230	-317	-142	-77	-33	-18
5000	-1600	-248	-361	-164	-86	-39	-38
8600	-1536	-280	-416	-223	-106	-47	-29
22500	-1387	-383	-556	-317	-142	-64	-16
50000	-3650	-402	-556	-346	-128	-57	-530
100500	-1777	-976	-607	-356	-137	-61	60
250100	-1381	-551	-595	-354	-135	-63	3

Table G-60. Maximum peak transverse strains in subgrade (TS702C6)

704C6		Transverse Strains (μstrain)					
Depth (mm)	76	187	305	457	616	756	914
Reps							
0	2695	113	7	35	96	62	35
500	2844	171	17	55	123	48	209
1000	2501	180	2068	62	130	69	57
2500	2866	219	23	81	153	82	57
5000	3308	210	22	67	164	87	50
8600	5198	197	34	108	187	113	43
22500	7140	210	146	103	207	103	66
50000	2098	111	86	28	187	86	54
100500	6262	-179	80	26	175	35	65
250100	7882	46	77	85	185	106	55
Reps							
				Position 2			
0	920	422	305	209	208	132	70
500	4002	478	488	276	244	150	81
1000	2777	564	500	280	260	129	71
2500	5338	598	608	344	290	172	85
5000	3192	730	649	376	311	172	80

8600	6193	796	763	390	331	186	91
22500	8102	1013	990	503	454	242	90
50000	3206	1033	955	521	459	237	112
100500	2738	1074	962	483	387	218	98
250100	3879	1149	871	471	349	209	-104
Reps							
Position 3							
0	28332	423	222	228	197	136	73
500	31188	344	294	284	234	148	65
1000	32237	444	323	329	271	177	78
2500	33498	481	393	367	296	182	85
5000	29219	517	421	379	316	222	92
8600	55276	539	467	437	355	234	90
22500	59689	665	569	546	445	256	101
50000	29742	694	640	591	422	264	112
100500	31435	3377	593	578	409	235	105
250100	38488	745	502	440	362	238	96

APPENDIX H: DYNAMIC STRESS TEST RESULTS

Table H-1. Maximum measured peak vertical stress in subgrade

704C1						
Load = 53-kN, Tire pressure = 690-kPa						
z = 381-mm						
TRANSVERSE STRESS (kPa)						
Position 1 Position 2 Position 3					Position 1 Position 2 Position 3	
Repetitions	VERTICAL STRESS (kPa)	LONGITUDINAL STRESS (kPa)	TRANSVERSE STRESS (kPa)	z = 381-mm	z = 381-mm	z = 381-mm
0	-56.2	-80.7	-82.2	-12.3	-15.6	-9.5
500	-56.2	-79.3	-80.1	-11.8	-14.7	-8.8
1000	-55.4	-81.8	-80.6	-11.9	-15.2	-9.5
2500	-57.5	-83.4	-80.5	-12.9	-16.2	-10.3
5000	-56.1	-82.7	-82.8	-13.1	-16.6	-11.6
10900	-63.6	-91.7	-84.5	-13.3	-16.9	-13.2
23947	-61.4	-91.5	-88.4	-16.9	-21.8	-19.7
						-21.3
						-16.2

704C1						
Load = 53-kN, Tire pressure = 690-kPa						
z = 660-mm						
TRANSVERSE STRESS (kPa)						
Position 1 Position 2 Position 3					Position 1 Position 2 Position 3	
Repetitions	VERTICAL STRESS (kPa)	LONGITUDINAL STRESS (kPa)	TRANSVERSE STRESS (kPa)	z = 660-mm	z = 660-mm	z = 660-mm
0	-12.1	-17.4	-17.7	-12.1	-17.1	-17.3
500	-12.1	-17.1	-17.7	-12.0	-17.0	-17.4
1000	-12.0	-17.7	-17.4	-12.4	-18.0	-17.4
2500	-12.4	-18.0	-17.4	-12.1	-17.9	-17.9
5000	-12.1	-17.9	-17.9	-13.7	-19.8	-18.3
10900	-13.7	-19.8	-18.3	-13.2	-19.7	-19.1
23947	-13.2	-19.7	-19.1			

Table H-1. Maximum measured peak vertical stress in subgrade (cont.)

Load = 44 kN, 704C2 Tire pressure = 690 kPa VERTICAL STRESS (kPa)			
Repetitions	Position 1	Position 2	Position 3
0	-39.5		
500		-79.2	-90.8
1000	-41.3	-78.6	-89.7
2500	-42.9	-81.7	-94.9
6000	-43.3	-76.8	-85.3
13000	-42.7	-77.0	-86.3
22931	-41.1	-77.3	-84.4
57075	-39.4	-79.1	-76.9
125581	-38.2	-84.2	-91.4

Load = 49 kN, 704C3 Tire pressure = 690 kPa VERTICAL STRESS (kPa)			
Repetitions	Position 1	Position 2	Position 3
0		-72.3	
500	-61.4	-74.3	-74.7
1000	-60.8	-71.9	-72.8
2500	-61.2	-75.8	-72.9
6000	-61.4	-74.8	-68.9
12000	-64.2	-78.8	-69.1
25750	-64.5	-83.5	-73.6
41800	-69.9	-91.0	-74.2
81850	-49.1	-79.3	-39.9

Load = 44 kN, 704C4 Tire pressure = 690 kPa VERTICAL STRESS (kPa)			
Repetitions	Position 1	Position 2	Position 3
0	-86.1	-101.2	-91.1
1000	-67.5	-88.5	-75.8
2500	-68.7	-90.0	-77.6
5000	-65.4	-89.8	-74.4