

PAVEMENT SUBGRADE PERFORMANCE STUDY (VOLUME III)

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

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INTRODUCTION

As a result of the work of Dormon and Metcalf (1965), the current design criteria for pavements stipulates that the failure of the subgrade can be predicted by the level of vertical elastic compressive strain at the top of the subgrade layer. This failure criterion was based exclusively on the A-6 subgrade soil at the AASHO Road Test and may not be applicable for other material types (gravel, sand, silt or clay), nor for other moisture contents. For example, practical experience of pavement and geotechnical engineers indicate that silt subgrades rut more easily than gravel, and that moisture conditions near saturation are more critical than when the subgrade is less wet.

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 near 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 18% 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.

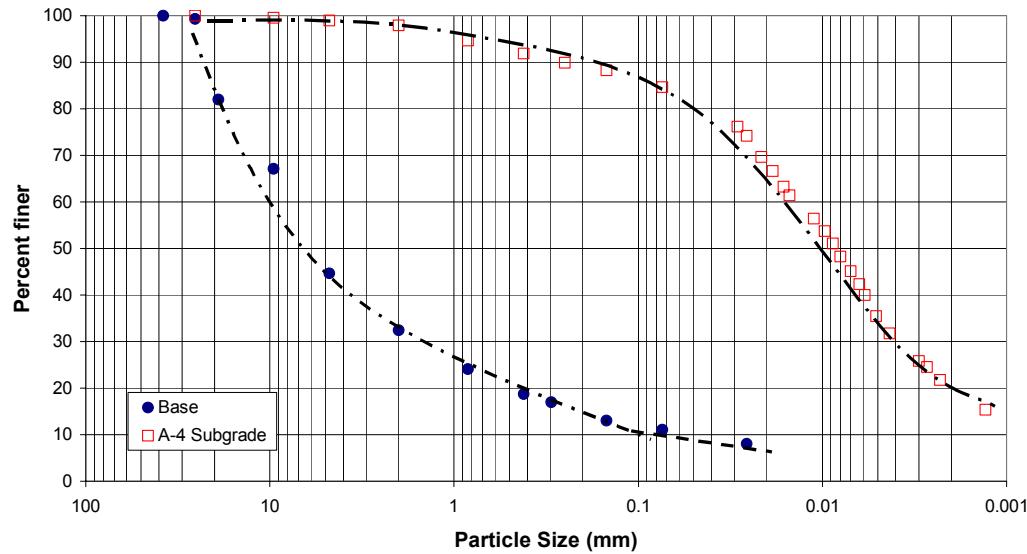


Figure 1. Grain size distribution for A-4 subgrade soil

Table 1. Summary of classification test on 702-subgrade soil

AASHTO	A-4
USCS	CL
Spec. Gravity	2.72
LL (%)	28
PI	18
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.

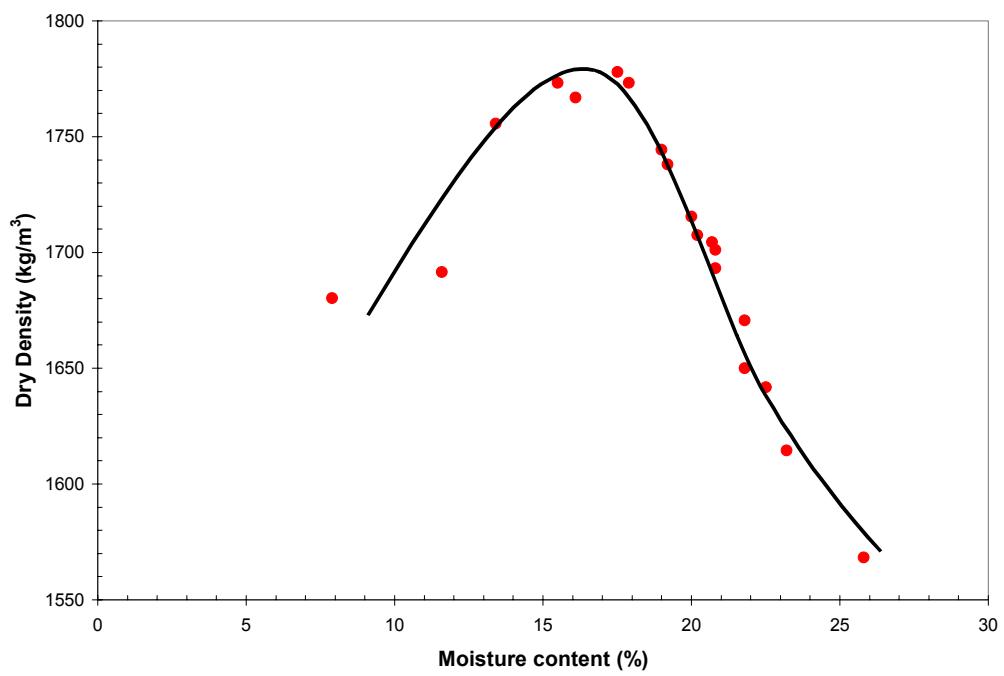


Figure 2a. Moisture Density relationship for A-4 subgrade soil

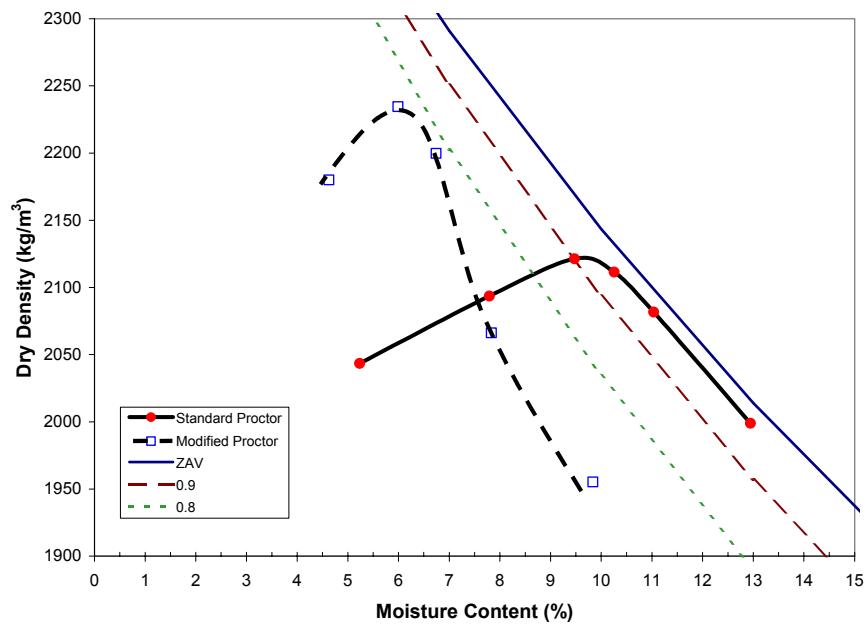


Figure 2b. Moisture Density relationships for base course

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 702 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.

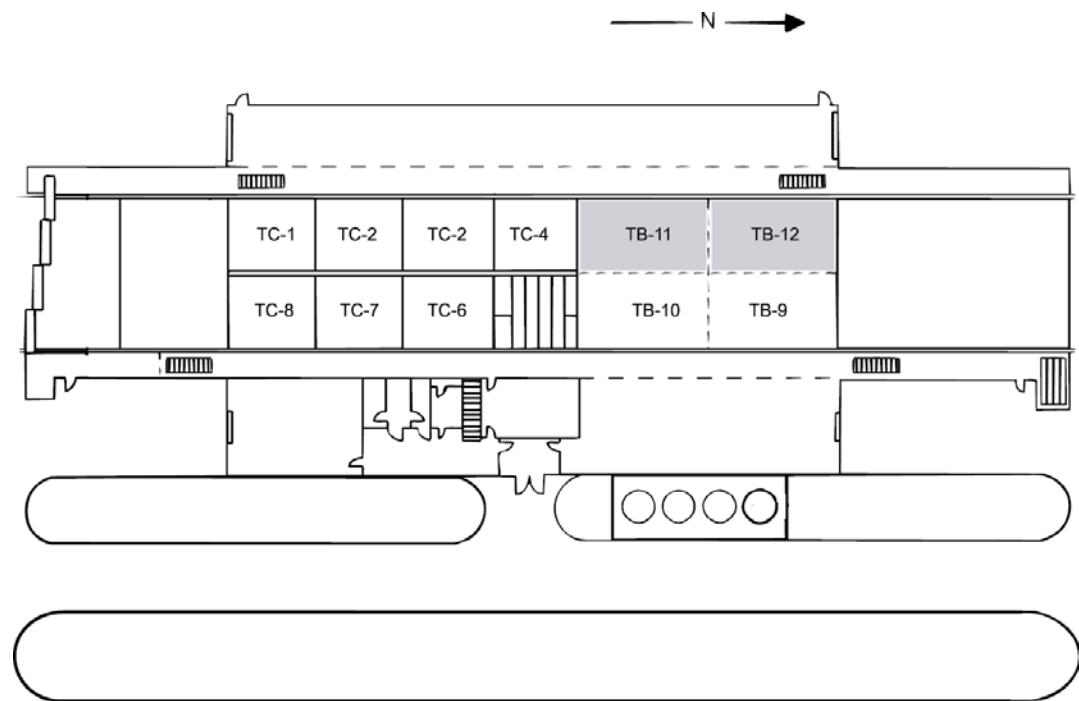


Figure 3. Test section area in the FERF.

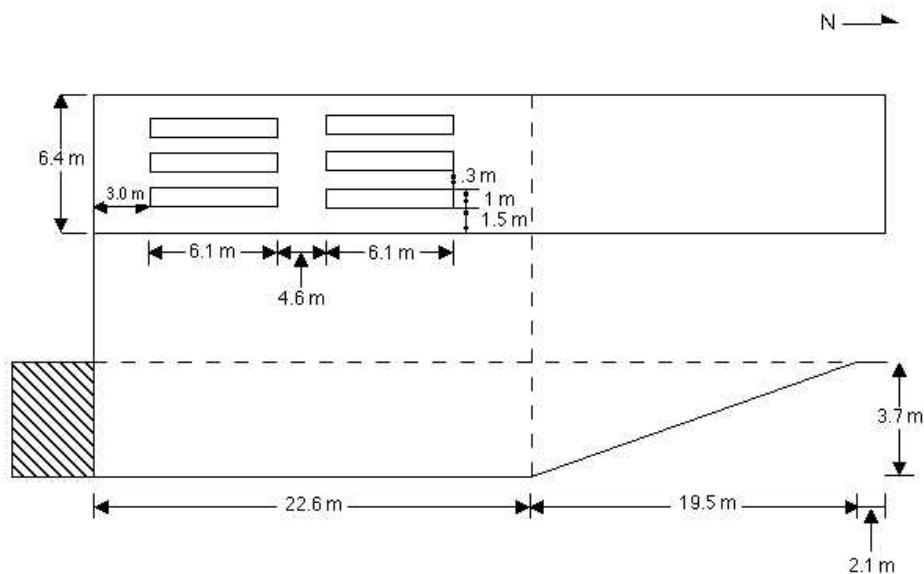
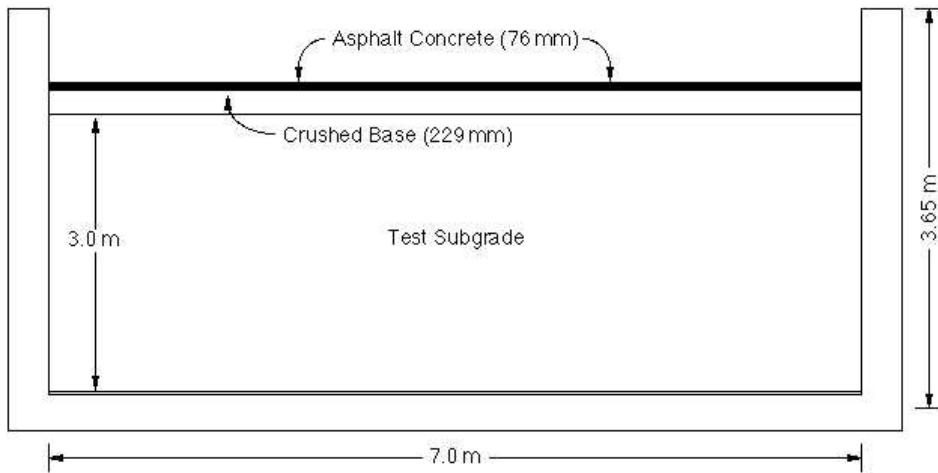


Figure 4. Location of test section in the FERF

The thickness of the test section layers were based on theoretical multi-layered analysis (Hildebrand & Irwin, 1994) and from results from Danish Road Institute (DRI) test sections using the Road Testing Machine (RTM). In the FERF, the test section cross section was 76 mm of asphalt concrete, 229 mm of crushed base over 3048 mm of test subgrade soil; Figure 5.



VJ-173

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 $\pm 1\%$ 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 bottom 2.1m of the subgrade in the test section was constructed in 300mm lifts, while the remaining 1.5m of the subgrade was constructed at nominal lift thickness of 150mm.

Construction of the test section was delayed due to the delay in the delivery of the Heavy Vehicle Simulator (HVS). Based on the analysis by Hilderbrand and Irwin (1994), that below 1.2m from the pavement surface, the effect of the wheel load was minimal, a decision was made to build the test section in 2 parts. Part 1 was to build the bottom 2.1m and cover it with a tarp to minimize loss of moisture. A total of 7 lifts were constructed in Part 1. Part 2, was to build the remainder of the test section once a firm delivery date for the HVS was set. The construction in Part 2, involved removing the top 2 lifts (0.6m) of Part 1 rework the material and reconstruct in 150mm layers.

Once the proper grade was achieved, water was added to the soil to bring the moisture content to the specified level and mixed with a rotary tiller attached to the back of a pneumatic tired tractor. Random soil samples were taken and the moisture content checked using the SPEEDY DRY ovens. These ovens provide the moisture contents in 5 minutes and we have found from experience that the results from the SPEEDY DRY ovens were very close to that obtained from the moisture content determined after 24-hours of oven drying. Once the moisture content was reached, the layer was graded and compacted using a 9000kg steel wheel roller. Compaction started at one end of the

longitudinal wall and moved approximately in 0.3m increments towards the other longitudinal wall. The compaction was done in the non-vibratory mode so as not to disturb any instrumentation in the layers below. The area approximately 0.3m long from the south supporting pad was compacted using a hand compactor since the steel wheel compactor could not reach this area due to the wall.

CONSTRUCTION CONTROL

As part of construction control, once the compaction was completed, a series of tests were conducted on the compacted layer. These measurements were made on every 300mm lift. The tests included determination of moisture, density, CBR, layer thickness and surface deflections. Additional details on construction control of the subgrade soil can be found in Janoo et al, 2002.

Moisture and density measurements were taken using the TROXLER nuclear gage at locations shown in Figure 6. The moisture and density determinations were made in a volume of soil using the direct approach. The probe from the TROXLER penetrated into 150 mm of soil. On each lift, 30 measurements of moisture and densities were made. A total of 300 moisture and density measurements were made during the construction of the subgrade.

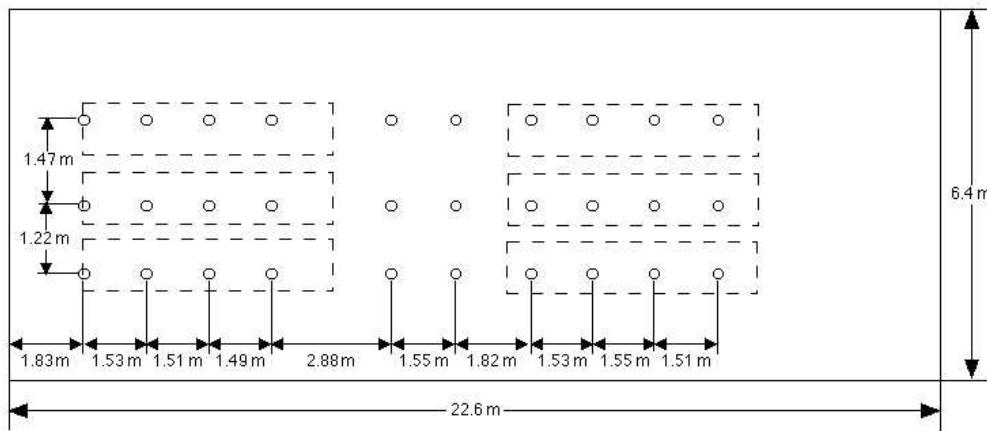


Figure 6. Location of moisture and density measurements on test section 702

A total of 360 density measurements were made in the test section. The results are presented in Appendix A. A histogram and cumulative frequency plot of the relative compaction is presented in Figure 7. Overall, the mean relative compaction of the subgrade was 96% with a coefficient of variation (COV) of 3.4%. A similar analysis of the relative compaction of the upper 1.2m of subgrade soil indicated similar mean value of 97% relative compaction and a COV of 4%. On top of the base course, density measurements were taken using the backscatter method. The mean density of the base course was 2071 kg/m^3 with a COV of approximately 6%. The density is about 98% and 93% of the optimum densities obtained from AASHTO T-99 and T-180 tests. The measured base densities are presented in Table B-1, Appendix B.

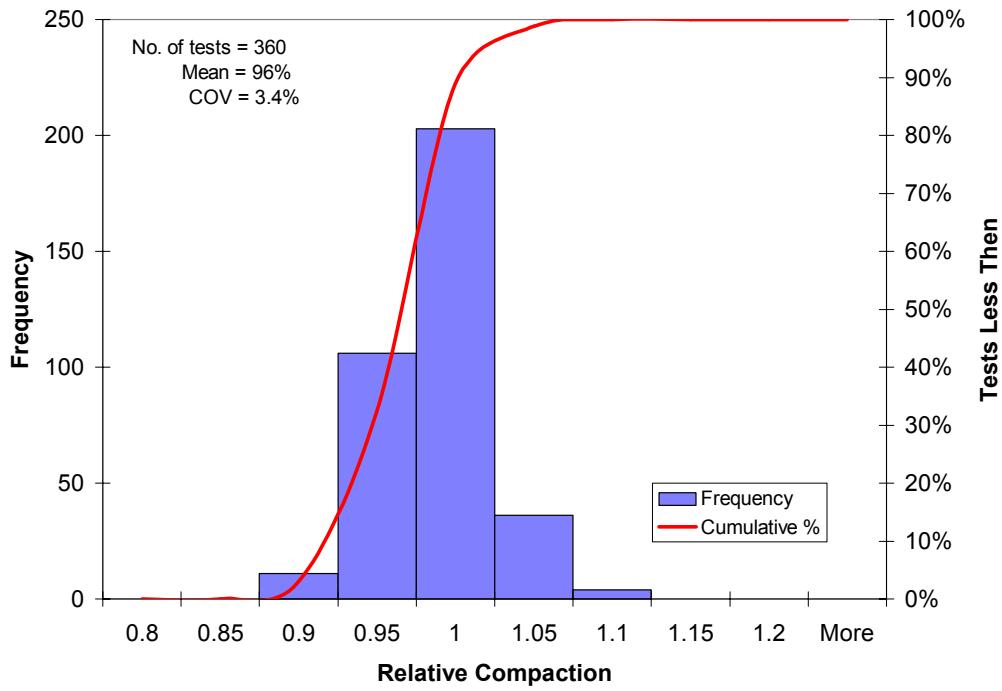


Figure 7. Constructed relative densities of test subgrade

Together with the dry density, moisture content of the subgrade layers were measured using the TROXLER device. A total number of 389 measurements were made. The results are presented in Appendix B-2. The mean moisture content of all the subgrade layers was 15.5% with a coefficient of variation of 10%. Approximately 80% of the moisture content in the subgrade was within the specified $\pm 2\%$ of the target moisture content of 16.5%, Figure 8. A similar analysis of the in-situ moisture content in the upper 1.2-m of subgrade soil indicated the soil was slightly wetter (15.8%) and approximately 80% of the moisture content were within the specified $\pm 2\%$ of the target moisture content, Figure 9. The mean base moisture content was 2.4% with a COV of 12%. This was significantly lower then the optimum moisture content of 6% or 9.5% from the AASHTO T-180 and T-99 tests respectively. Our experience with the base course was that water tended to drain fairly rapidly through the layer and the 2.4% was more realistic of field conditions then values obtained from either the AASHTO T-99 or T-180 tests. We also found in laboratory samples compacted to optimum conditions, that a pool of water tended to form at the bottom of the sample.

Elevation measurements were taken at locations shown in Figure 10. A total of 48 elevations and Clegg hammers tests were conducted on each subgrade layer. Each layer is approximately 300-mm thick. 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 Clegg data provided a quick method to check the strength of the layer and also the uniformity of strength in each layer. Elevation and

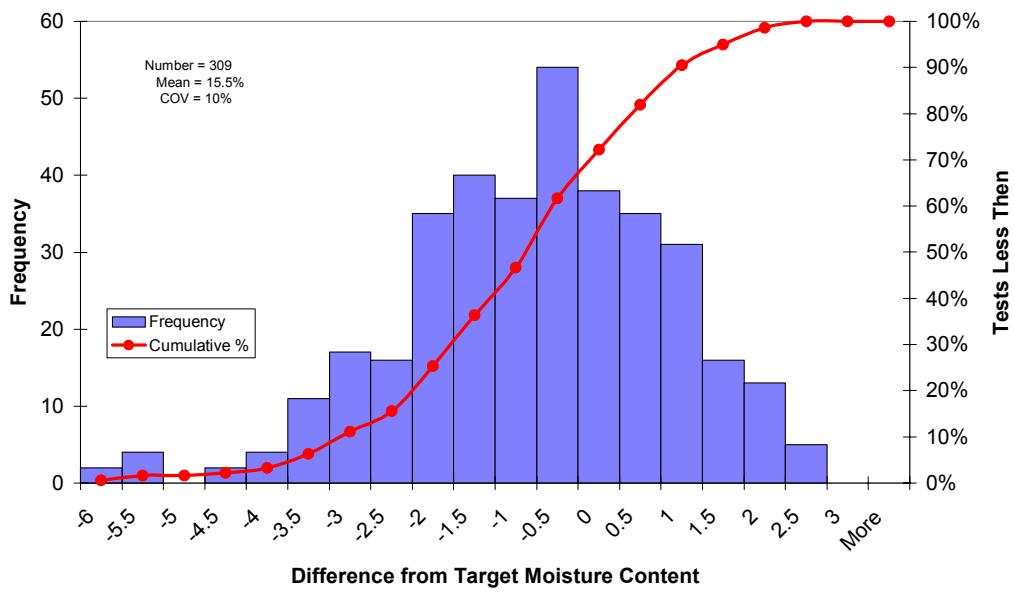


Figure 8. Distribution of the difference between actual and target moisture content in the subgrade

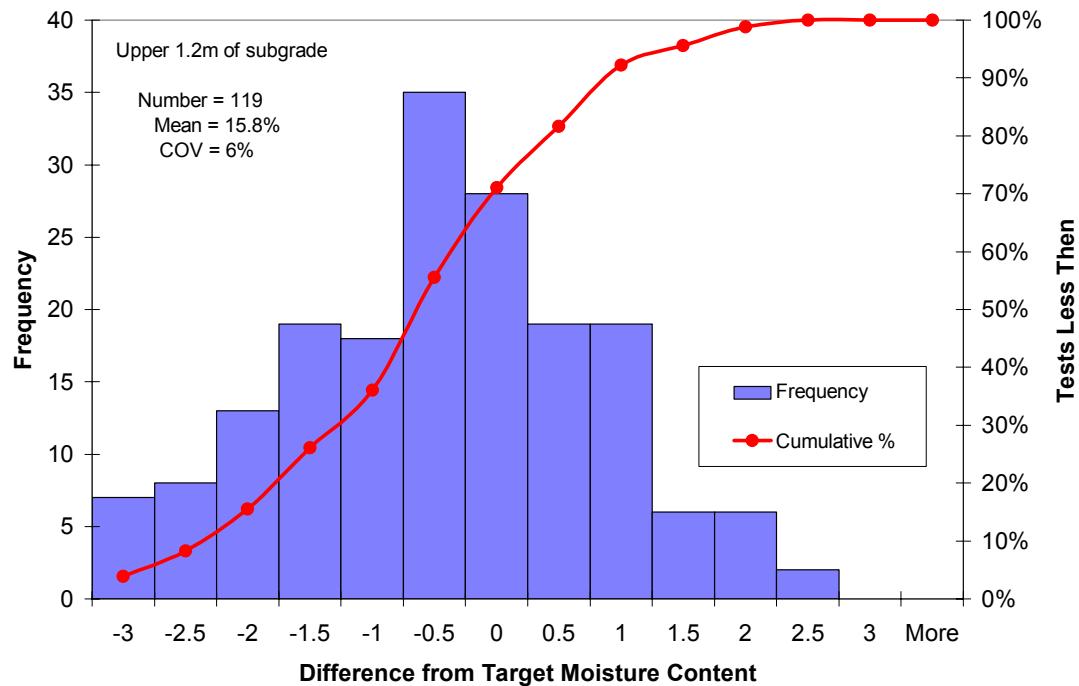


Figure 9. Distribution of the difference between actual and target moisture content in the upper 1.2-m subgrade

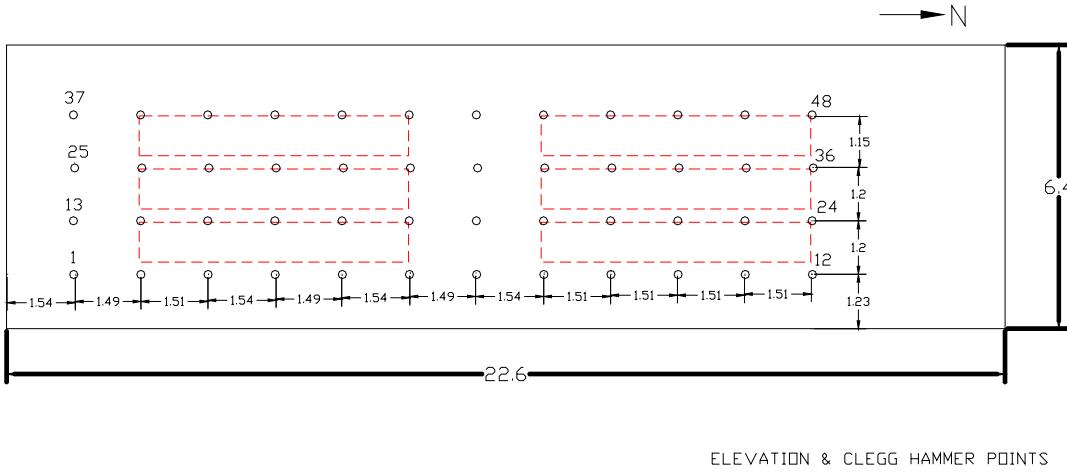


Figure 10. Location of elevation and Clegg hammer test points

CBR data are presented in Tables B-3 and B-4 in Appendix B. The test stations identified in Tables B-3 and B-4 are shown in Figure 10. Note that Lift 1 is at the bottom of the test basin. Lifts T1 to T4 were the layers constructed in Part 2, discussed above. The average thickness of the overall subgrade was 3.1 m with a COV of 1%. The average base course thickness was 203 mm with a COV of 9% and the average thickness of the asphalt concrete layer was 85 mm with a COV of 11%.

The distributions of the CLEGG CBR values in the subgrade and in the upper 1.2 m of subgrade are presented in Figures 11 and 12. The CBR was quite variable with the overall mean CBR of 6.6% with a COV of 45%. The mean CBR value in the upper 1.2 m was 8.2% and it was also quite variable (COV = 35%). No data was collected on top of the base course layer.

Although not used as part of construction control, as the test section was constructed, falling weight deflection (FWD) tests were conducted. A total of 24 measurements were taken on each 300-mm lift in the subgrade and on top of the base and the asphalt concrete layer. 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.

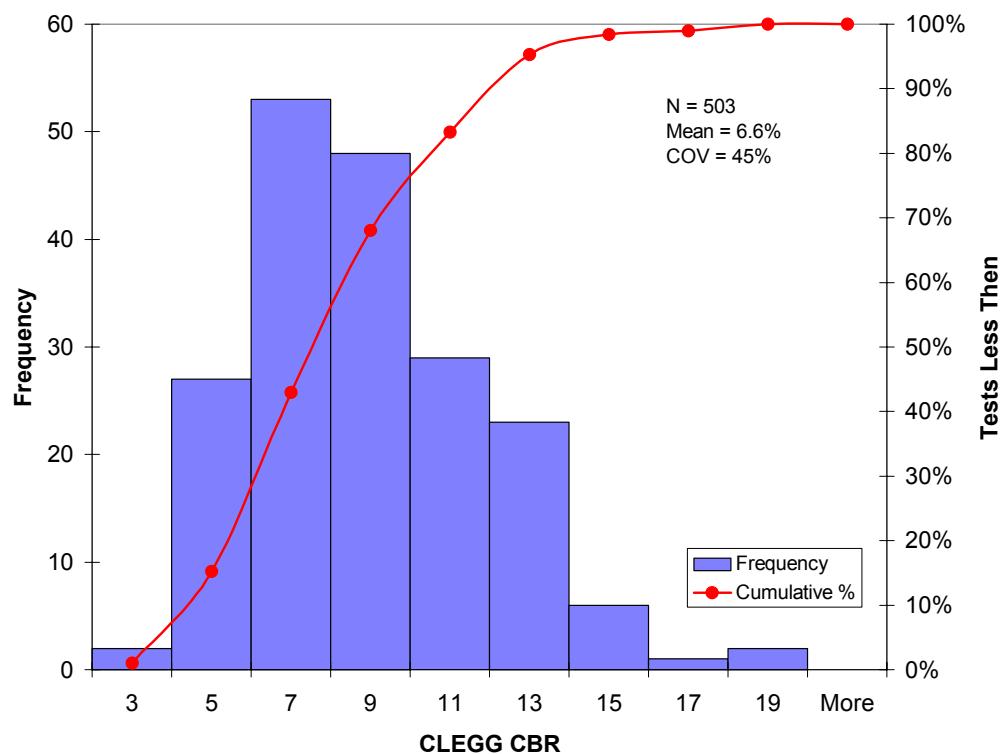


Figure 11. Distribution CLEGG CBR in the subgrade

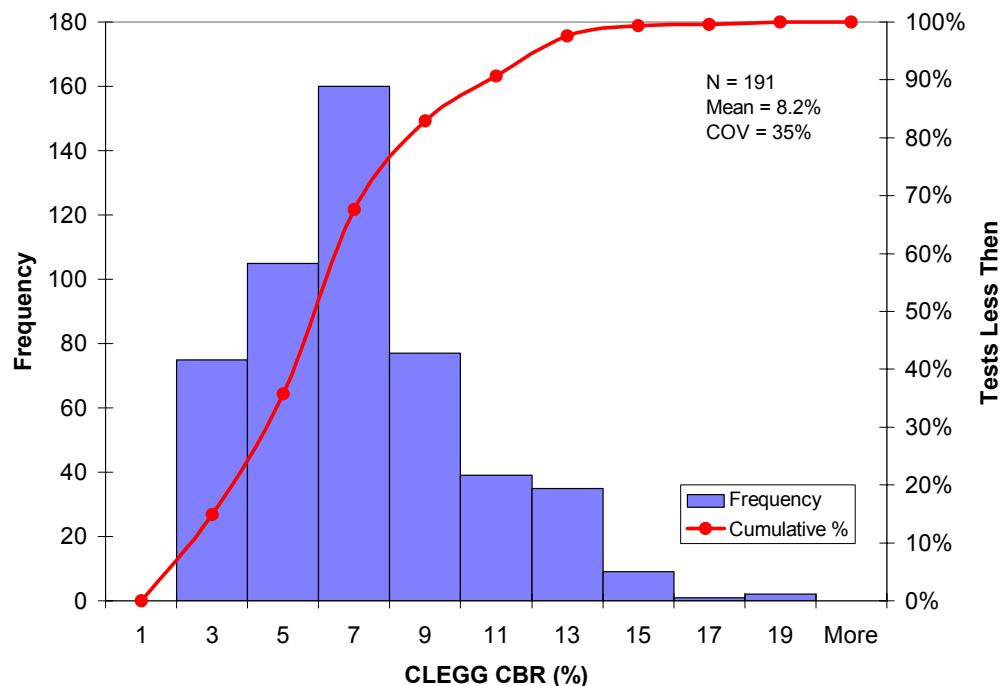


Figure 12. Distribution of CLEGG CBR in the upper 1.2-m of subgrade

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 gages in plan and elevation views are shown in Figures 13, 14, 15 and 16.

Strain measurements were made with the strain measurement unit (ϵ mu), Janoo et al., 2002. The system was set up to measure the displacements in the longitudinal (x), transverse (y), and vertical (z) direction of loading. This was done by exciting one coil and measuring the 3 receiver coils simultaneously. Vertical, longitudinal, and transverse stress measurements were made at several depths in the subgrade with the DYNATEST™ soil pressure cells. Pressure cells were not installed in all windows due to the availability of the gages during the construction of the test sections. They were used to measure the dynamic stresses due to the moving wheel load on the surface of the test windows. Stress cells with a range of 10–200 kPa were used to measure the horizontal stresses, while stress cells with a range of 100–800 kPa were used to measure the vertical stresses.

Soil moisture was measured with VITEL™ soil moisture probes. Basically the probe measured the dielectric constant of the soil at a frequency of 50 MHz. The measured dielectric constant was divided into its two components (capacitive and conductive) and the capacitive component was dependent on the volumetric moisture content of the soil. 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). The following linear equation was used to determine the volumetric water content in the A-4 test subgrade soil:

$$\omega_{vol} = 0.8173 \times (Vitel) + 0.067 R^2 = 0.91$$

where ω_{vol} is the calibrated volumetric moisture content and VITEL is the volumetric moisture content measured from VITEL Hydra probe.

Air, surface, and 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. The thermocouple strings were attached to wooden rods and were installed in two parts as the construction of the subgrade was done in two parts. Generally, the spacing of the thermocouples was 152-mm. In the base course, thermocouples were placed at top of the base course, 102-mm into the base course and at the interface of the base course and top of the subgrade. The locations of the thermocouple sensors in the base and subgrade are presented in Table C-5, Appendix C.

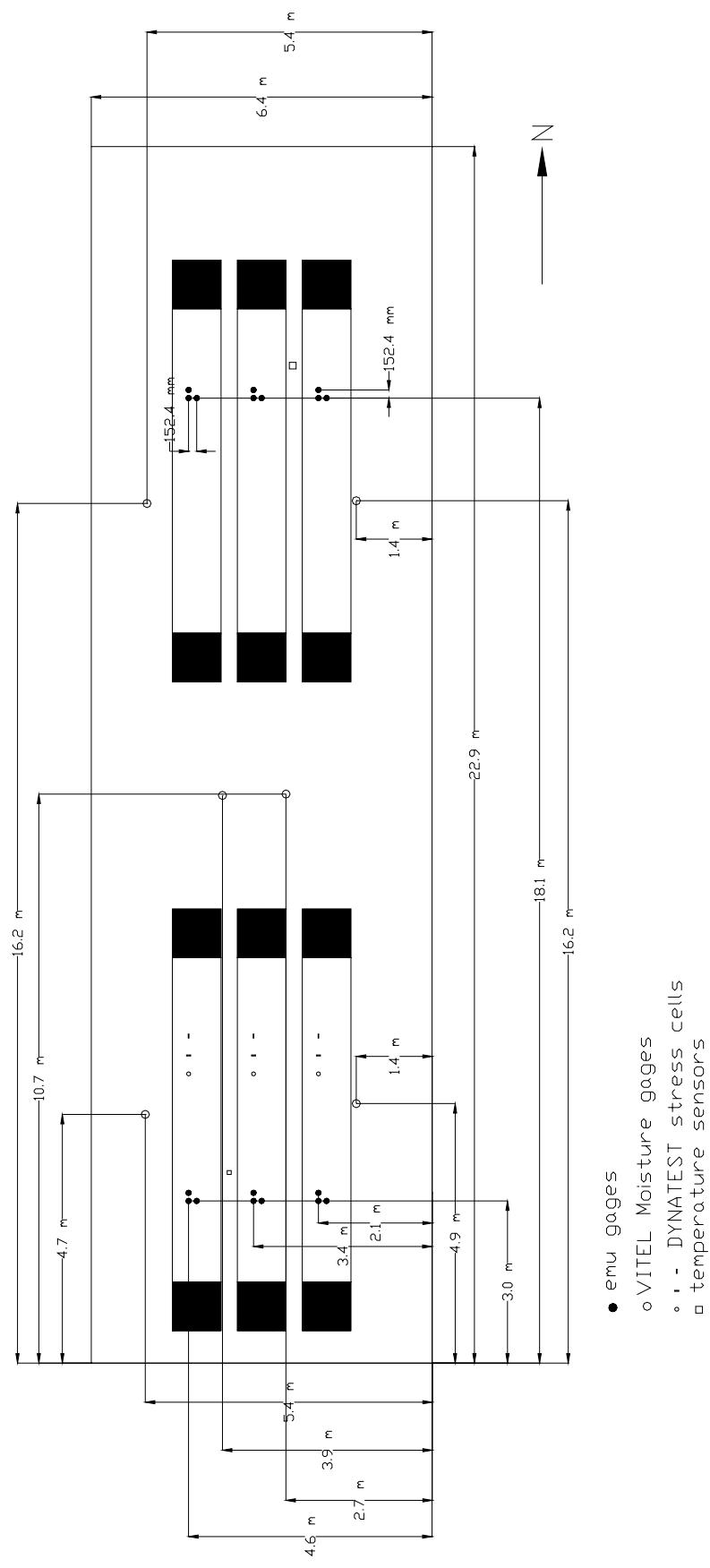


Figure 13. Location of instrumentation in TS 702

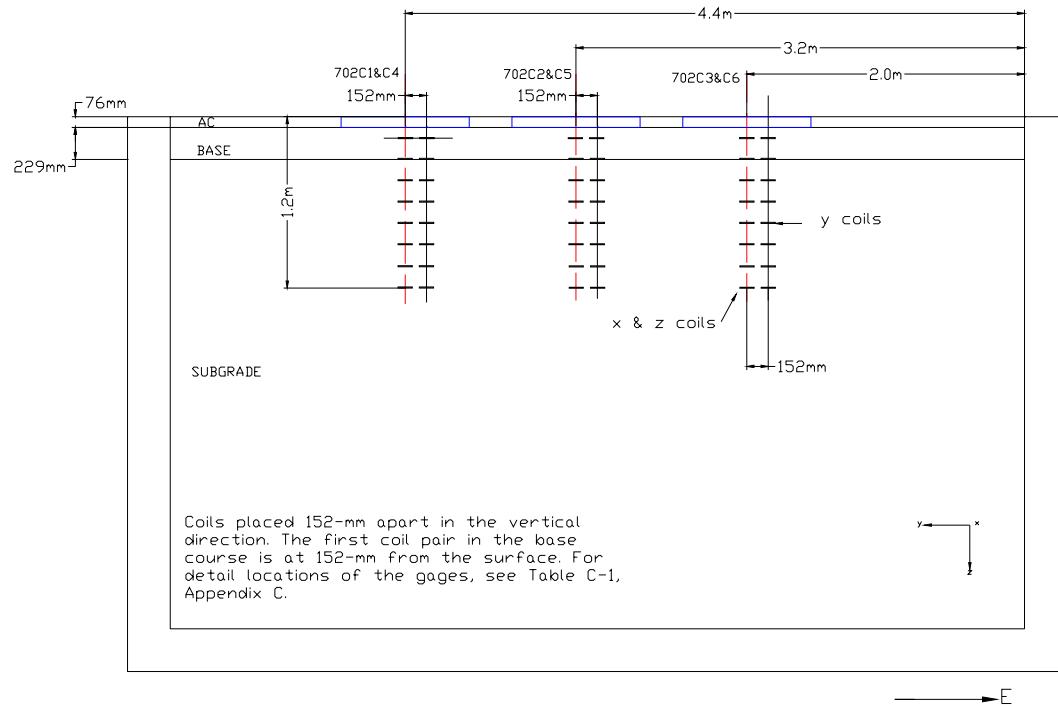
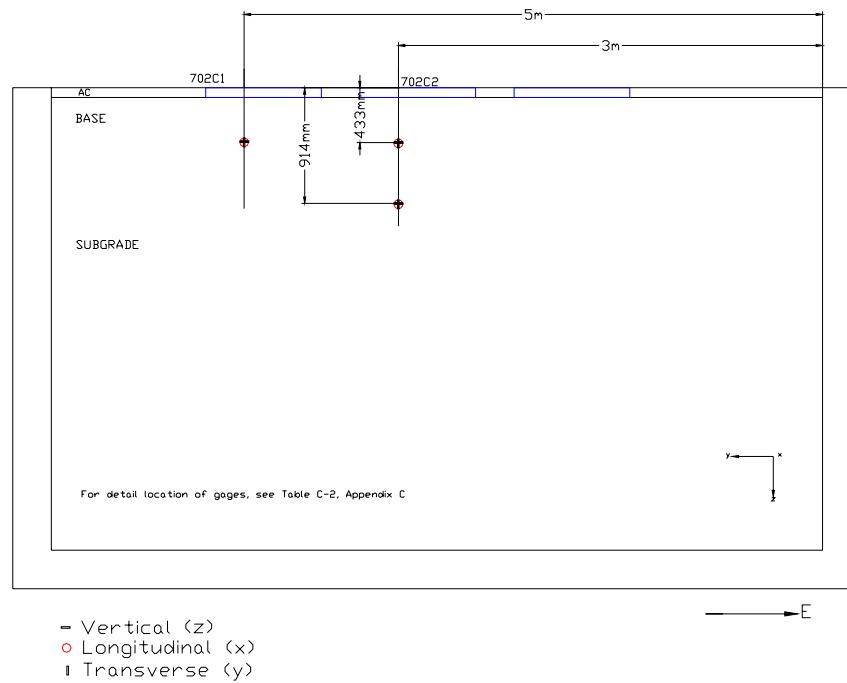
Figure 13. Location of strain (ϵ_{mu}) coils in TS 702

Figure 14. Location of pressure cells in TS 702

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.

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. 15). 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. 16). 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 17. 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 17. 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 18 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 16.

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 15. The laser Profilometer

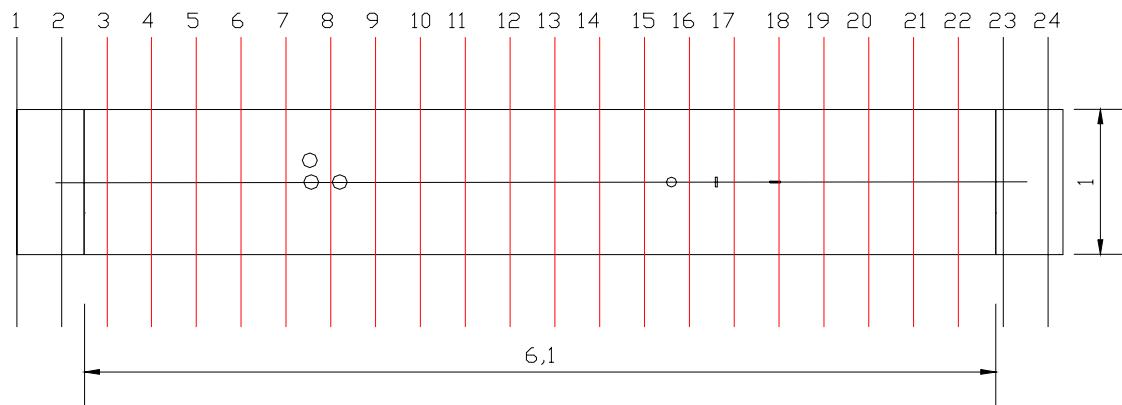


Figure 16. Locations for profile measurements in test section 702

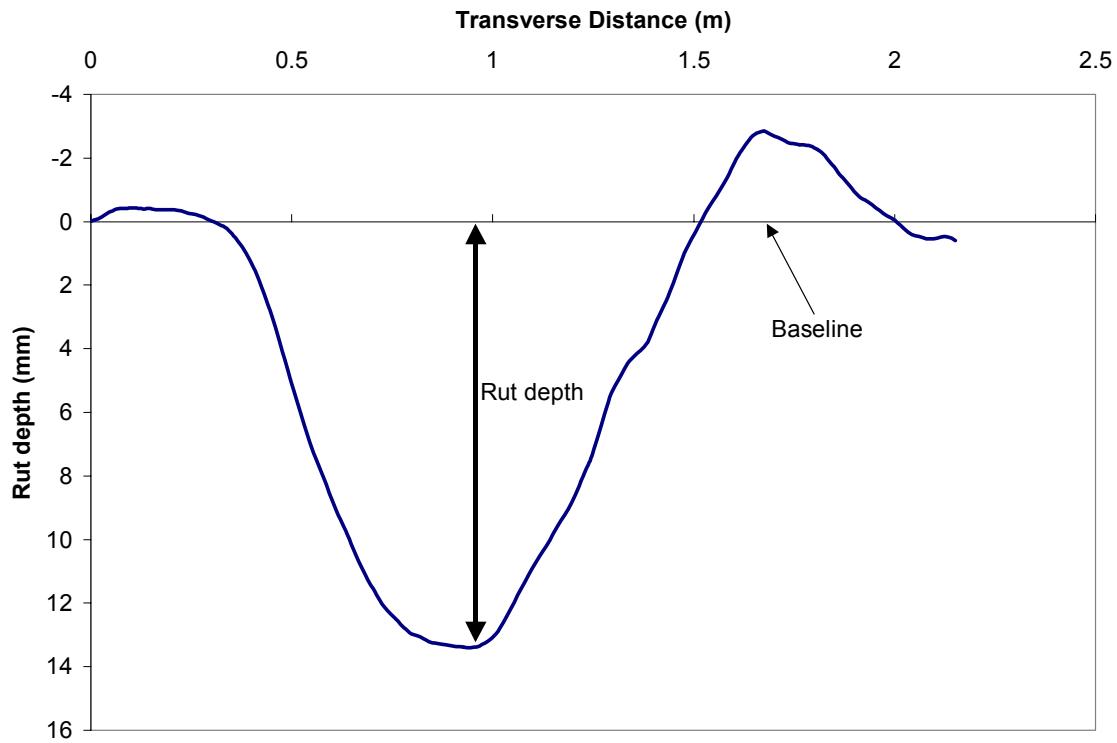


Figure 17. Definition of rut depth

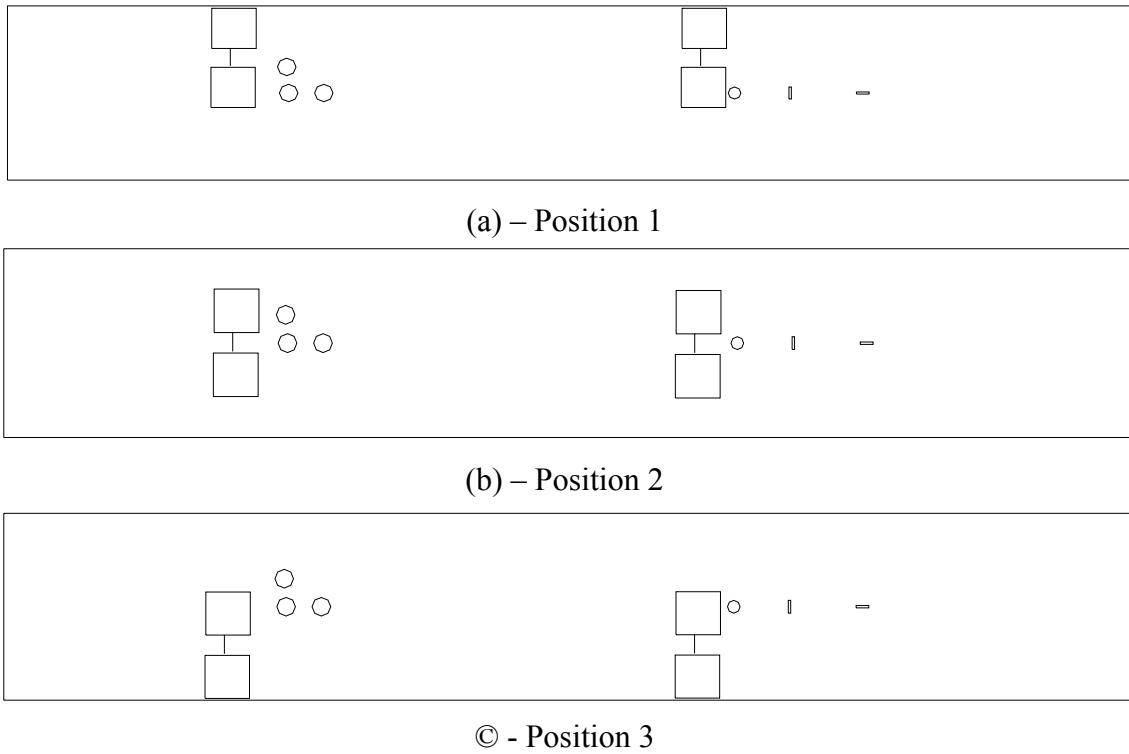


Figure 18. Location of test wheel during dynamic stress and strain measurements

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 distribution of load and average tire pressure in the test windows are shown in Figures 19 and 20. The mean applied loads and tire pressures are summarized in Table 3.

Table 3. Mean load and tire pressures on test windows

Test Window	Applied Load (kN)	Tire pressure (kPa)
702C1	67	716
702C2	81	707
702C3	63	746
702C4	61	787
702C5	54	737
702C6	71	705

STRESS MEASUREMENTS

Stress measurements were made in the subgrade in test windows 702C1 and 702C2. The other windows were not instrumented with stress gages, as the gages were not available during the construction of TS702. Triaxial (vertical, longitudinal and transverse) stress measurements were made in the subgrade from the moving wheel load. Typical stress responses in the subgrade are shown in Figure 21. Negative stresses indicate compressive stresses. The peak stresses as a function of load repetitions are presented in Appendix E.

The vertical subgrade stresses in 702C1 and 702C2 as a function of load repetition for Position 2 are presented in Figures 22 and 23. The vertical subgrade stresses near the top of the subgrade in both test windows are presented in Figure 22. The stress decreased with increasing load repetition when the load level was 67-kN. This was contrary to the response seen when the load was 81-kN. Further review of the vertical stress response from the 67-kN showed that with increasing load repetitions, that as the load approached and left the stress gage the stresses were in tension and the magnitude of the tensile stress increased with increased load repetitions, Figure 24. We did not see this type of response in 702C2. The vertical subgrade stresses never went tension. This may be due to the higher test load used in 702C2 which prevented any tensile stresses from developing.

The magnitude and change in the vertical stresses as a function of depth in 703C2 are shown in Figure 23. The peak stress at a depth of 586-mm from the subgrade surface was about 22 to 26% of the peak stresses measured at 146-mm from the subgrade surface.

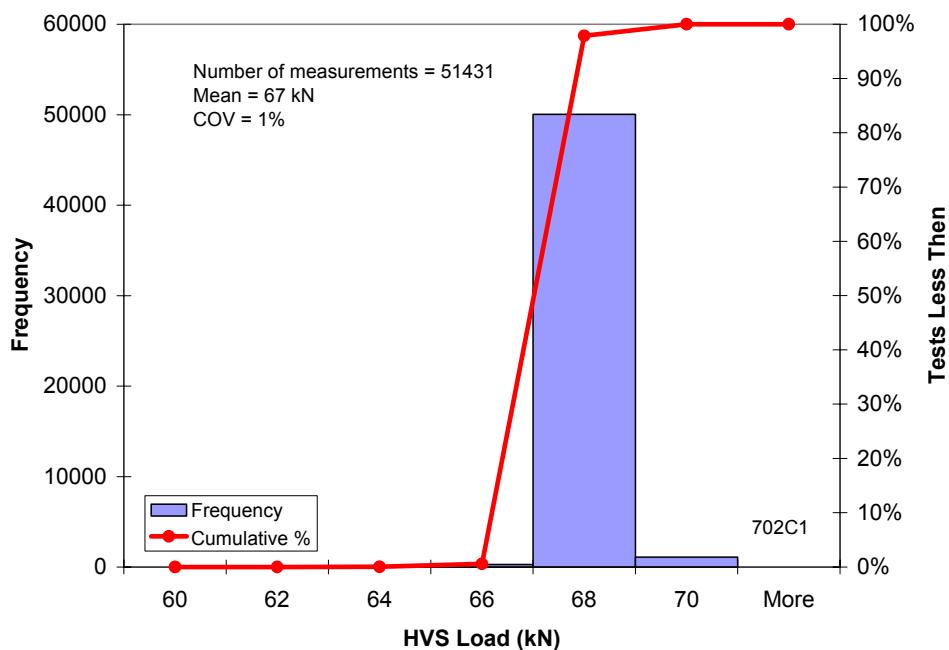


Figure 19a. Distribution of load during accelerated pavement testing of 702C1

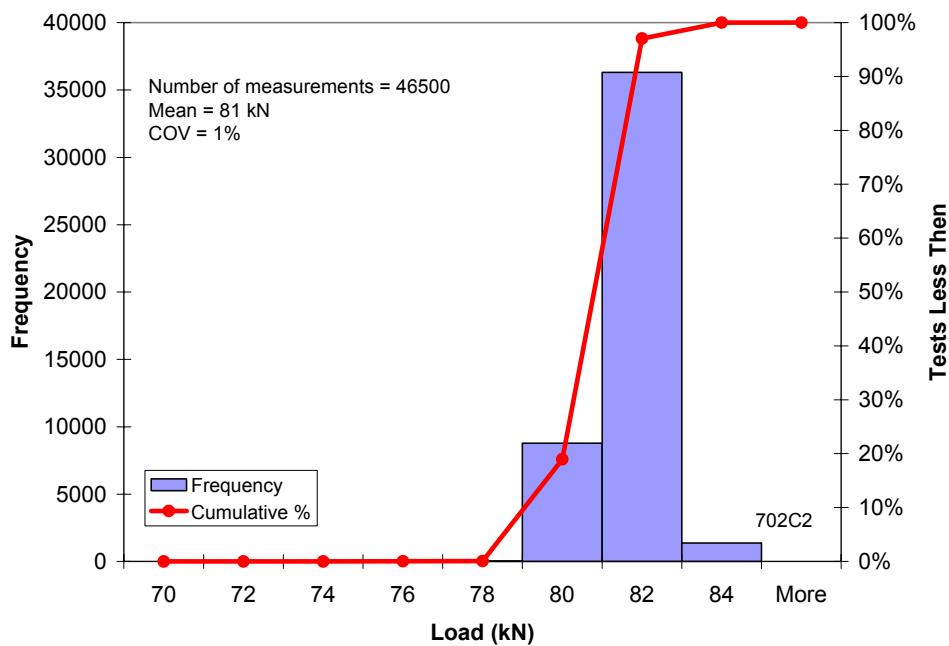


Figure 19b. Distribution of load during accelerated pavement testing of 702C2

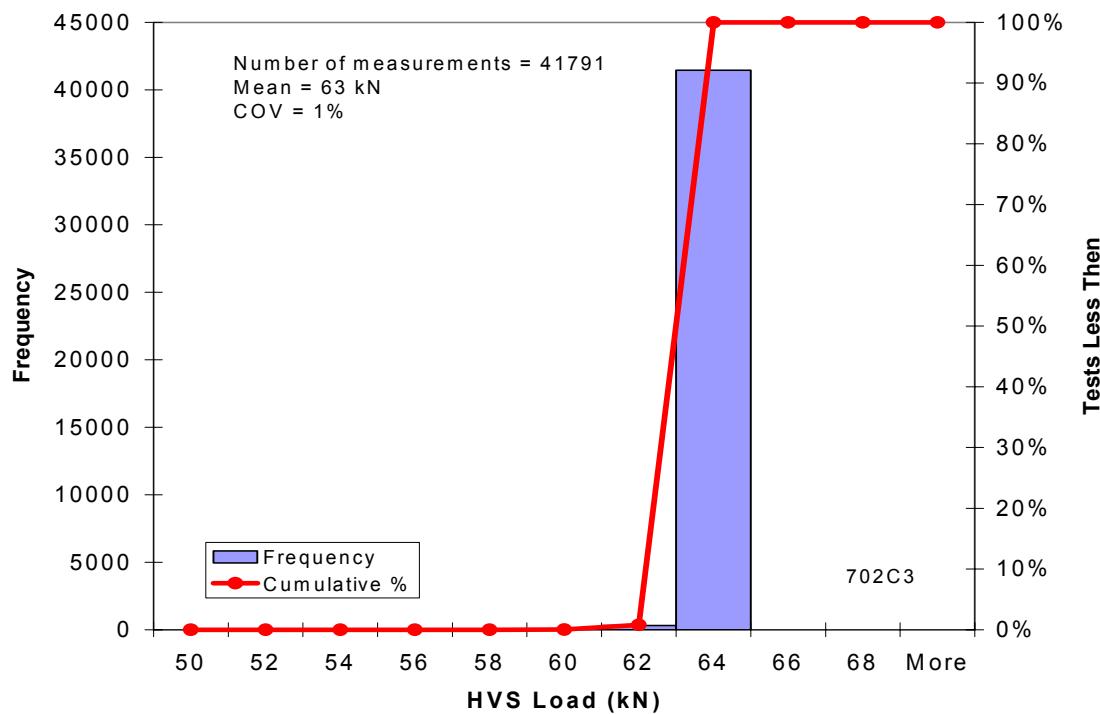


Figure 19c. Distribution of load during accelerated pavement testing of 702C3

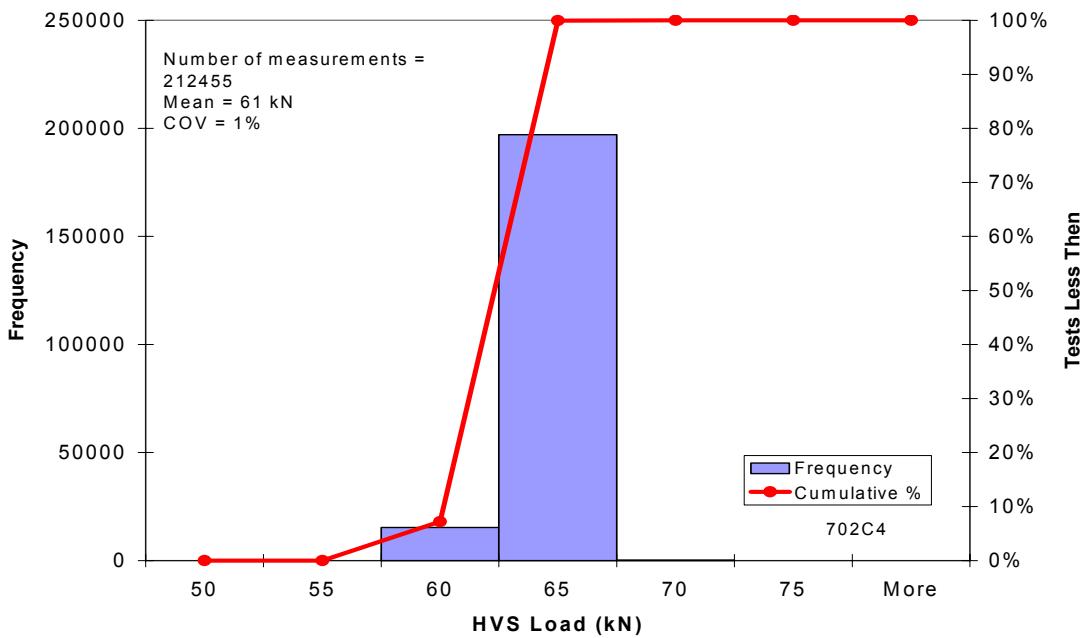


Figure 19d. Distribution of load during accelerated pavement testing of 702C4

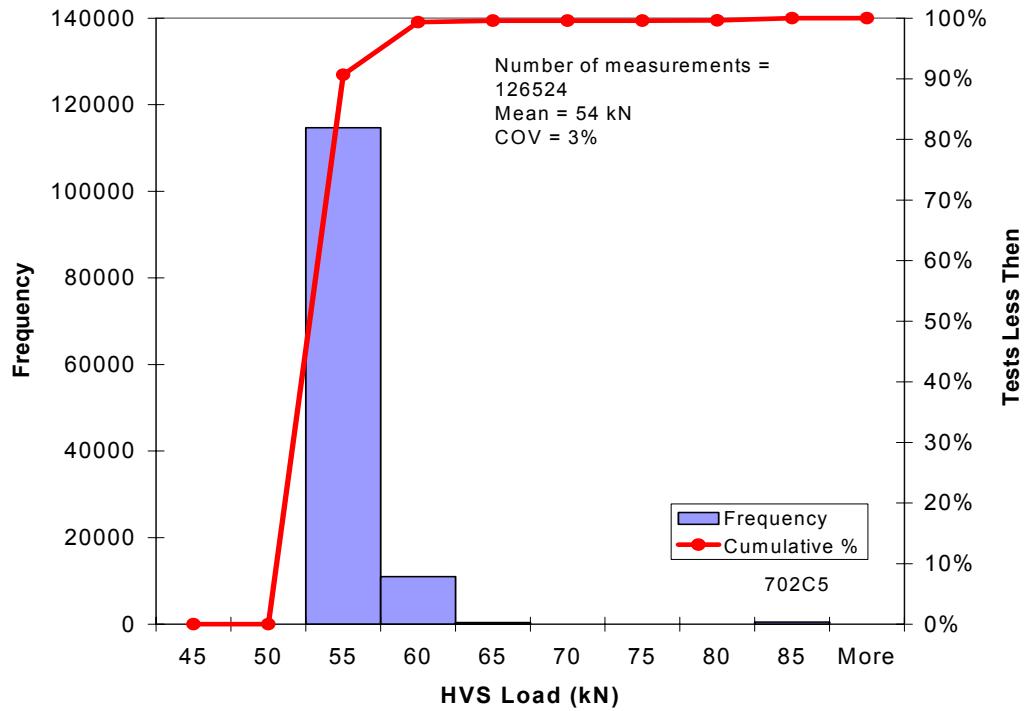


Figure 19e. Distribution of load during accelerated pavement testing of 702C5

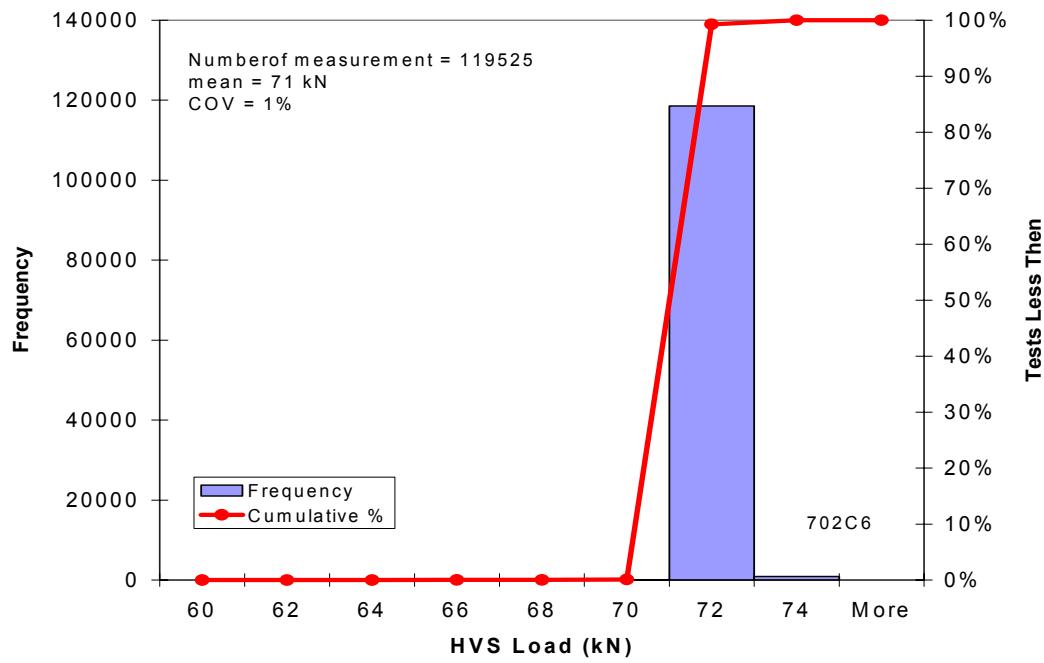


Figure 19f. Distribution of load during accelerated pavement testing of 702C6

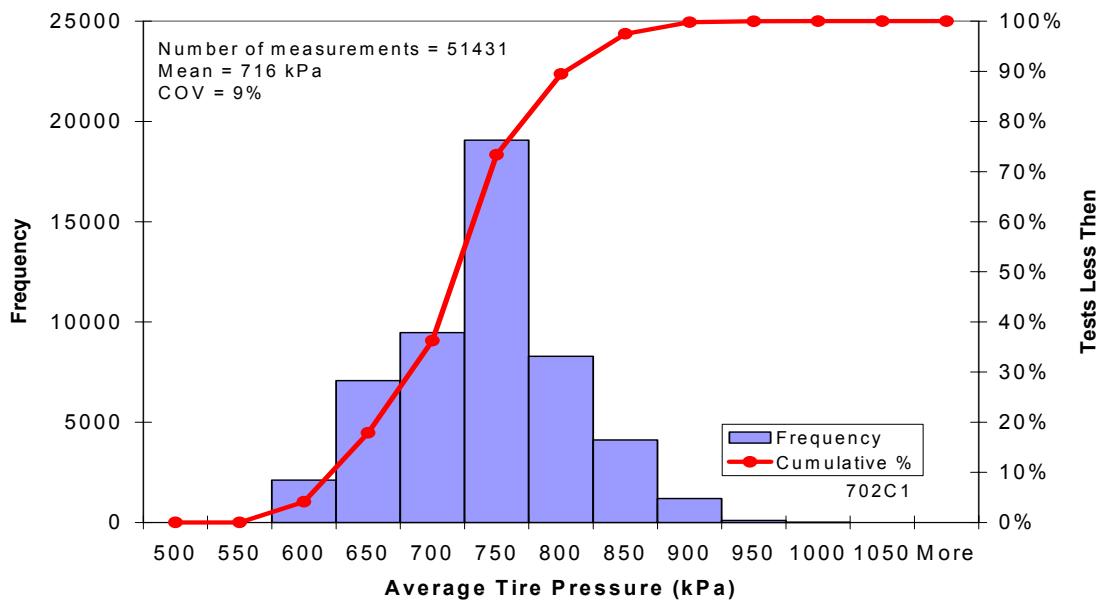


Figure 20a. Distribution of tire pressure during accelerated pavement testing of 702C1

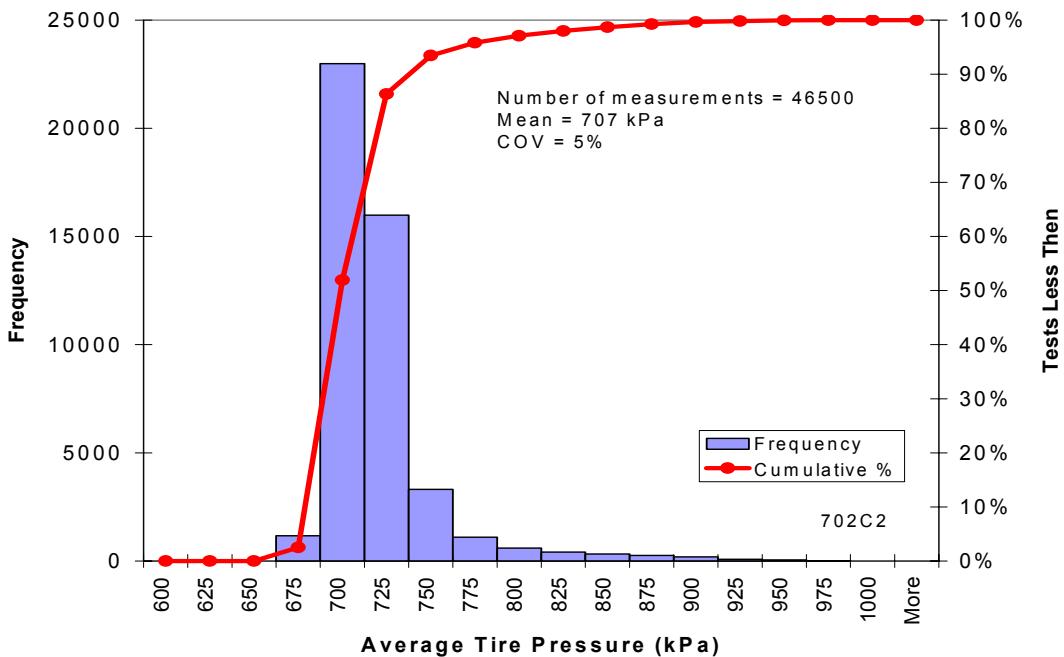


Figure 20b. Distribution of tire pressure during accelerated pavement testing of 702C2

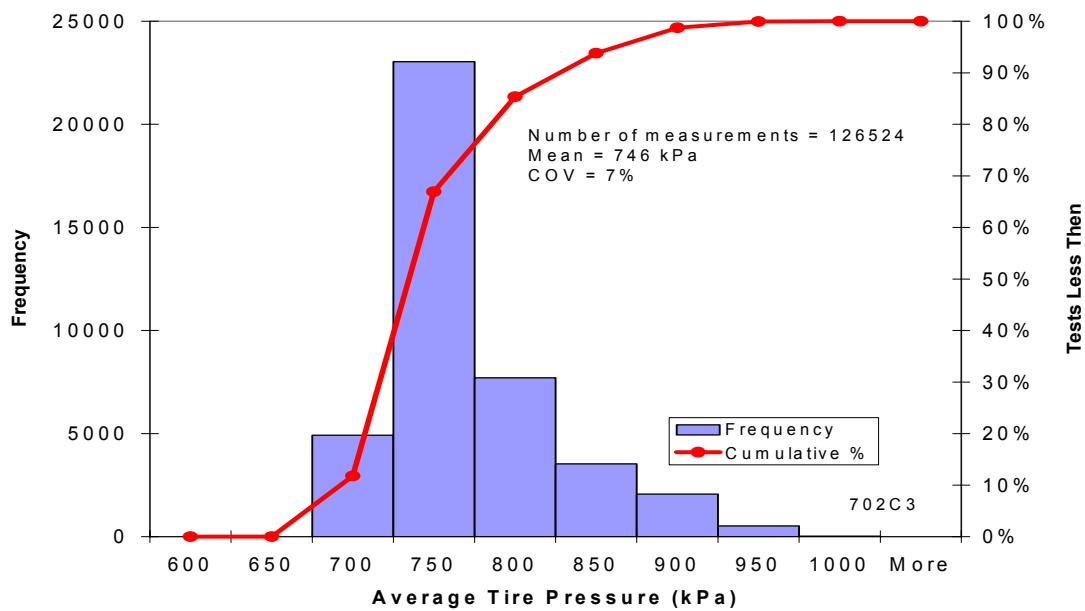


Figure 20c. Distribution of tire pressure during accelerated pavement testing of 702C3

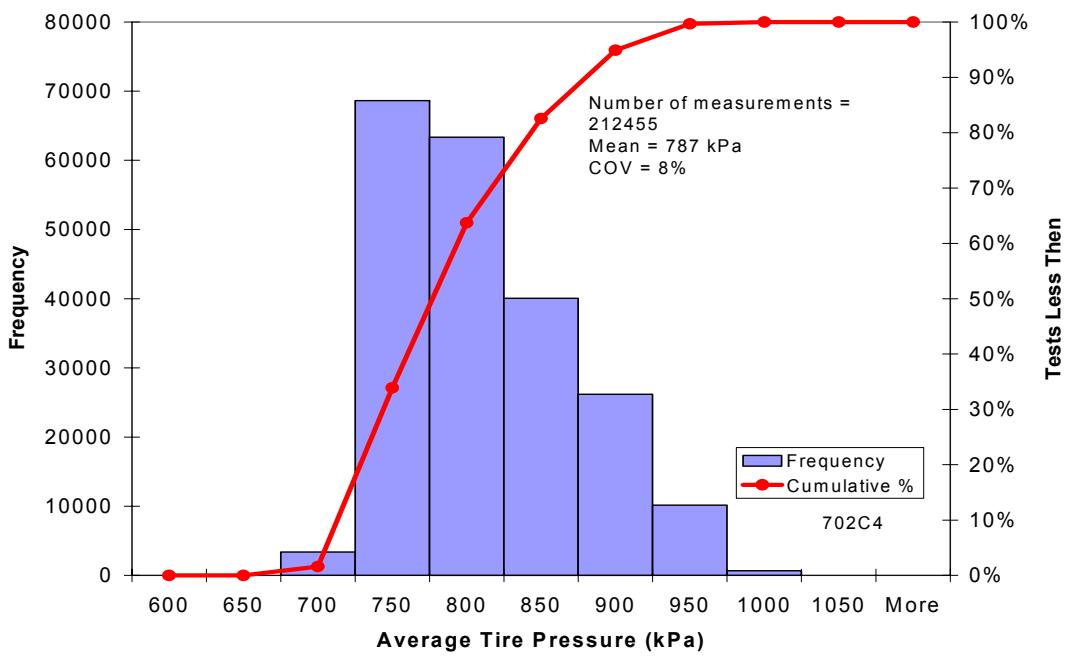


Figure 20d. Distribution of tire pressure during accelerated pavement testing of 702C4

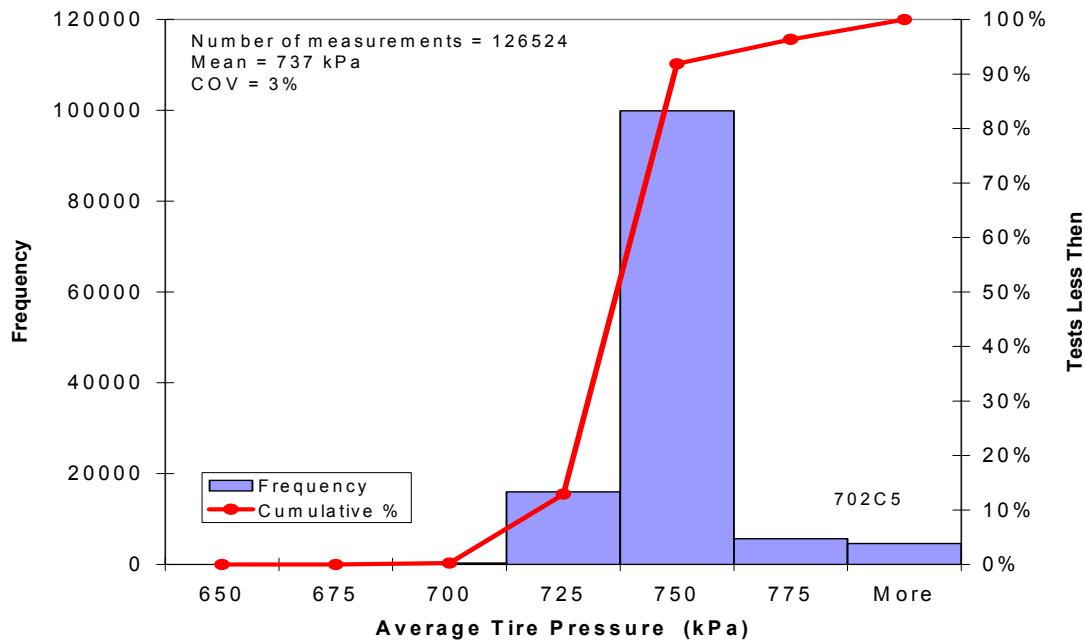


Figure 20e. Distribution of tire pressure during accelerated pavement testing of 702C5

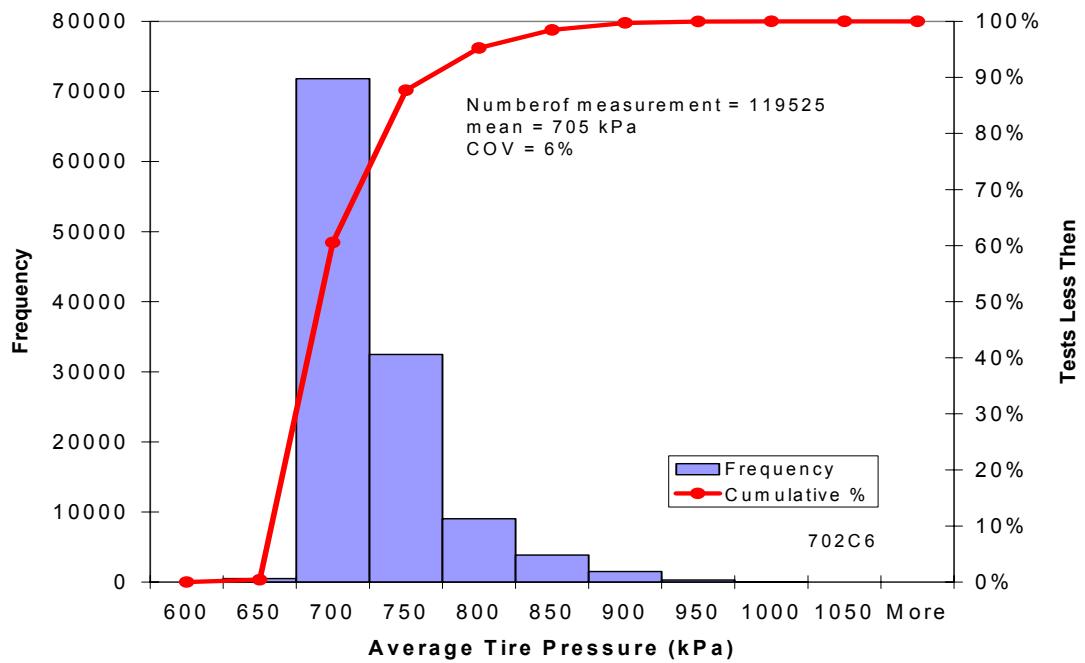


Figure 20f. Distribution of tire pressure during accelerated pavement testing of 702C6

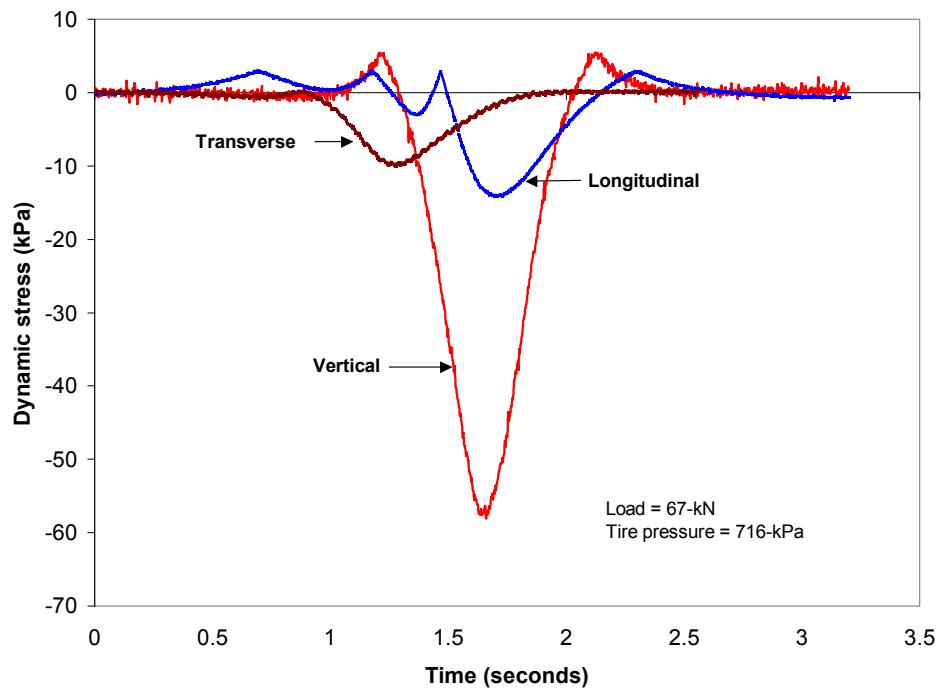


Figure 21. Typical stress response under HVS load

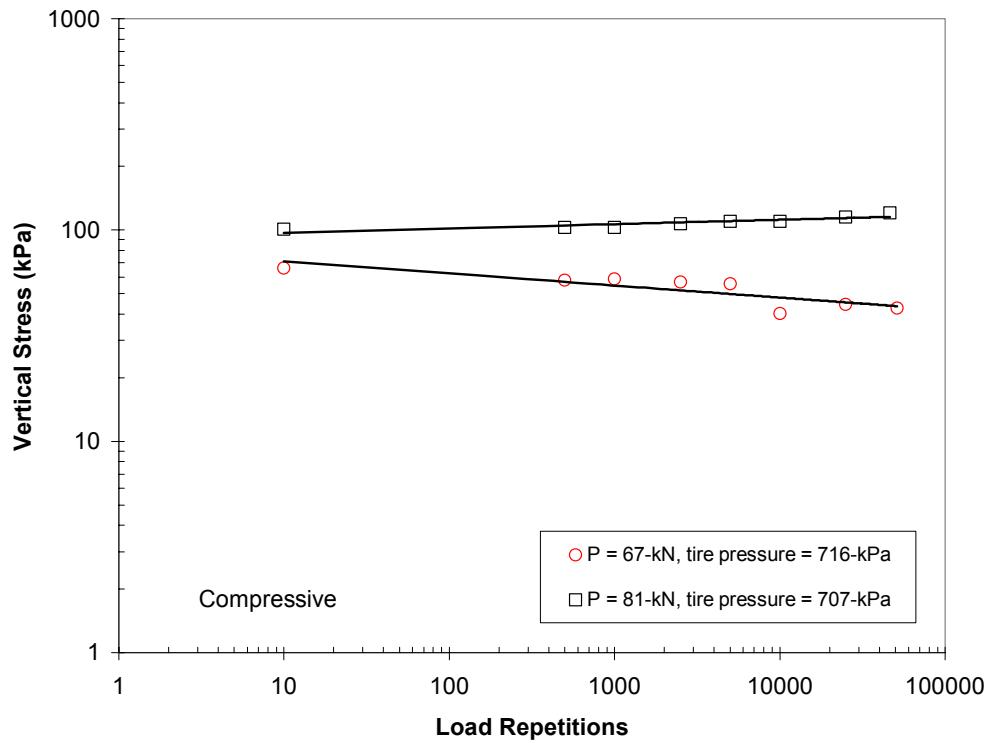


Figure 22. Vertical stresses near top of subgrade in 702C1 and 702C2

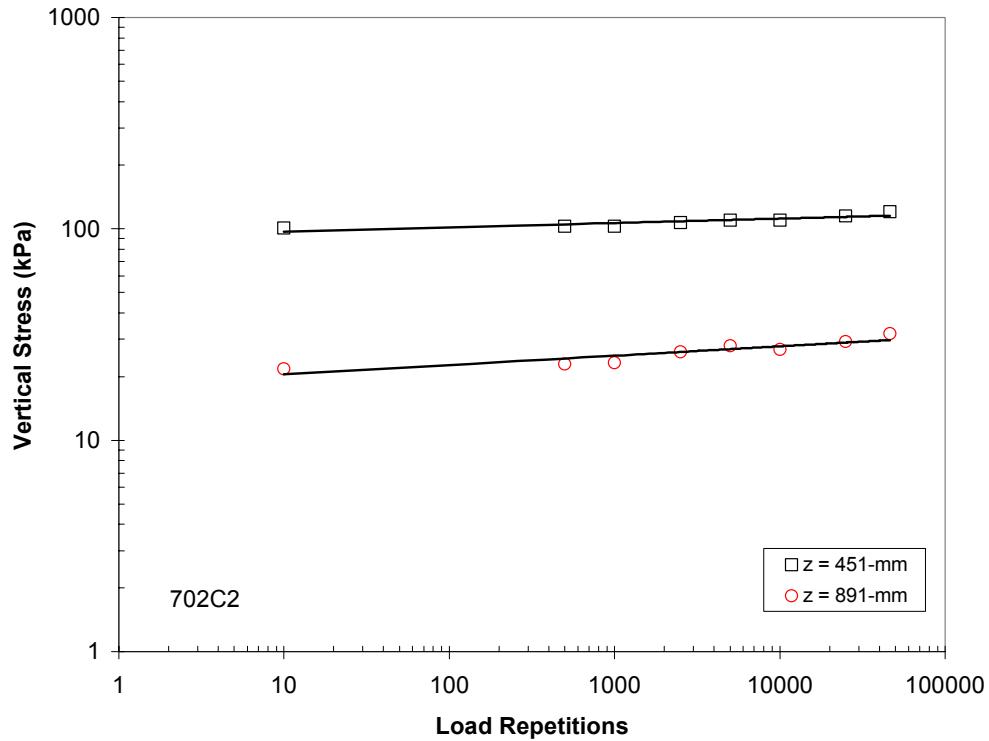


Figure 23. Vertical stresses at two depths in the subgrade in 702C2

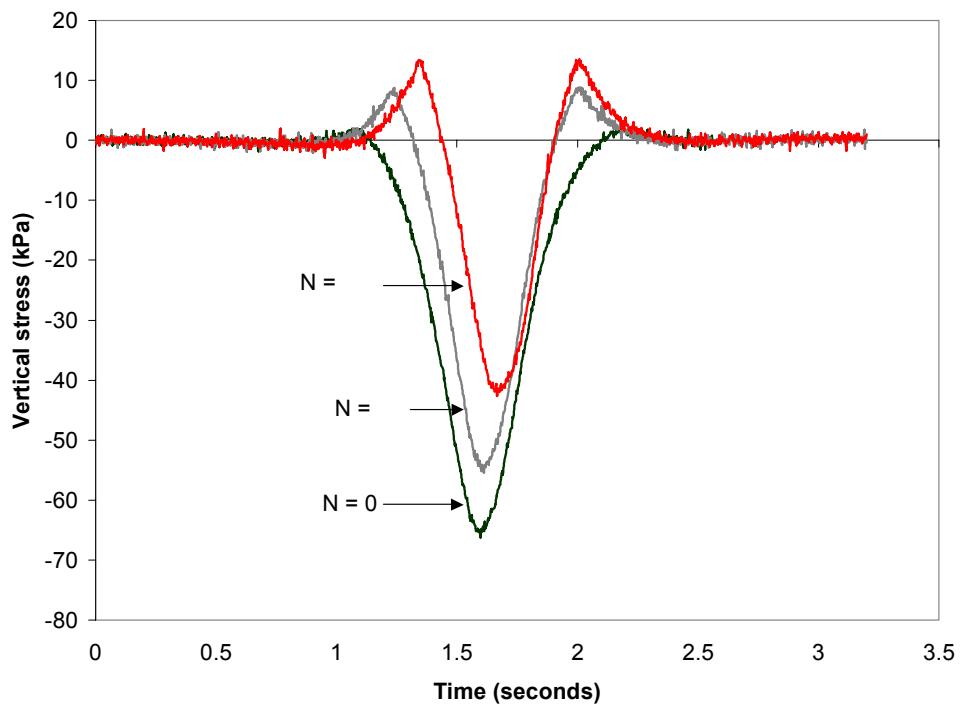


Figure 24. Vertical stress response in 702C1

Power curves were fitted to the data in Figures 22 and 23 and the coefficients are presented in Table 4.

Table 4. Power coefficients for stress data from 702C1 and 702C2

Teat window	A	n	R ²
702C1 (z=451-mm)	80.96	-0.057	0.73
702C2 (z=451-mm)	92.47	0.0201	0.78
702C2 (z=891-mm)	18.49	0.0444	0.83

The peaked measured stresses in the longitudinal and transverse directions were quite small, (see Table E-1, Appendix E). The stresses were mostly in 1 to 10-kPa range and no further analysis were done at this time.

DISPLACEMENT/STRAIN MEASUREMENTS

Dynamic Displacement/strain

Triaxial dynamic displacements were measured with the emu coil gages in the subgrade. A typical set of displacement measurements are presented in Figure 25. The vertical displacements are compressive, whereas the peak longitudinal and transverse displacements are tensile. The peak vertical displacements are presented in Tables E-2 to E-13. The peak displacements were used to calculate the peak strains. For the longitudinal measurements, 3 displacement (strain) measurements are reported, Figure 26. For the vertical and transverse displacements (strains) only the peak values are reported.

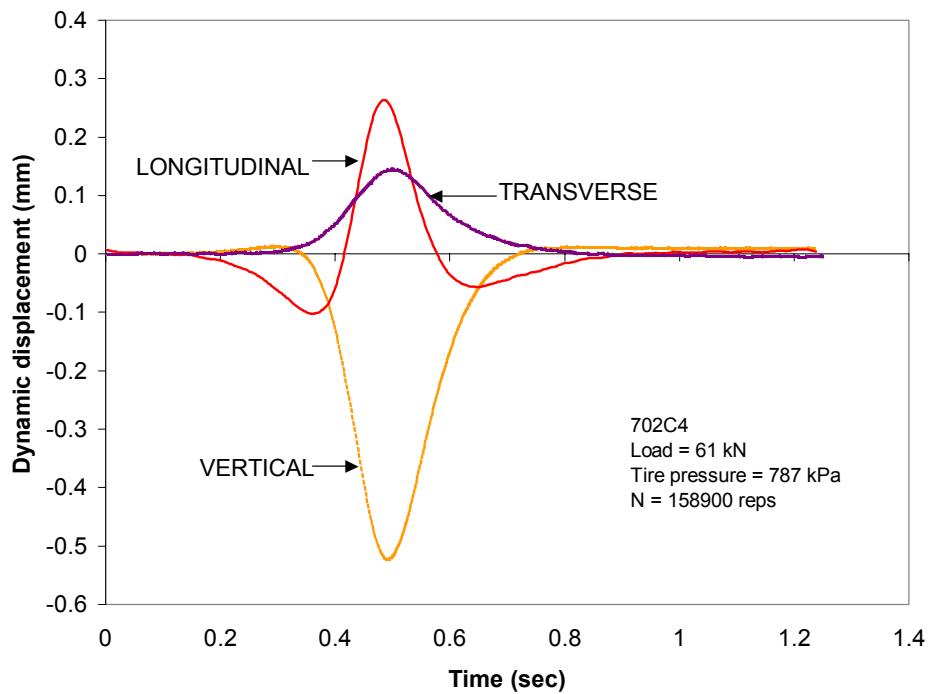


Figure 25. Typical displacement measurements under moving HVS load

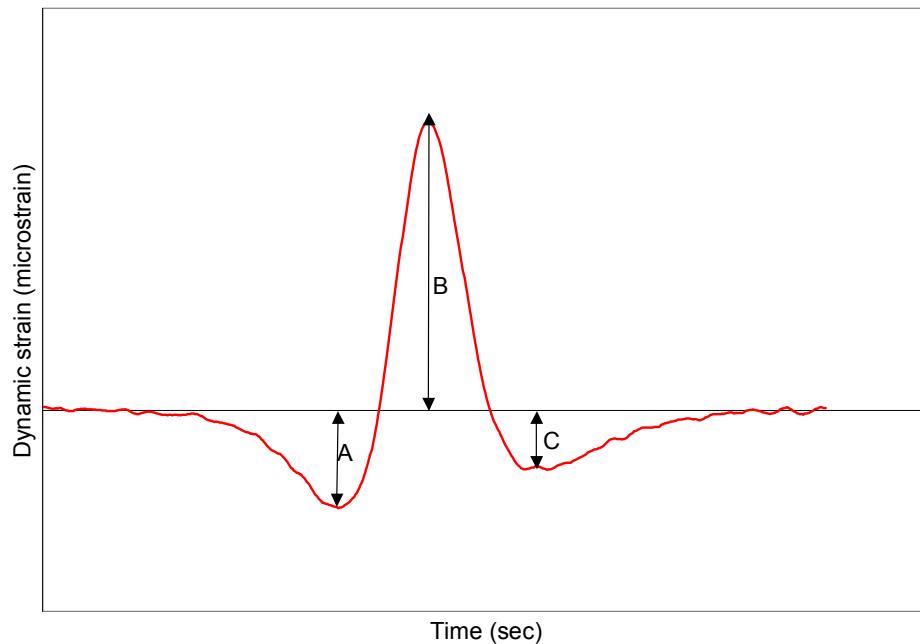


Figure 26. Location of peak longitudinal displacement (strain) measurements

REFERENCE

Hilderbrand & Irwin, "Theoretical Analysis of Pavement Test Sections in the FERF", Internal Report, 1994.

Janoo, V. L. Irwin, R. Eaton, and R. Haehnel, "Pavement Subgrade Performance Study: Project Overview, ERDC Report TR15, 2002.

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).

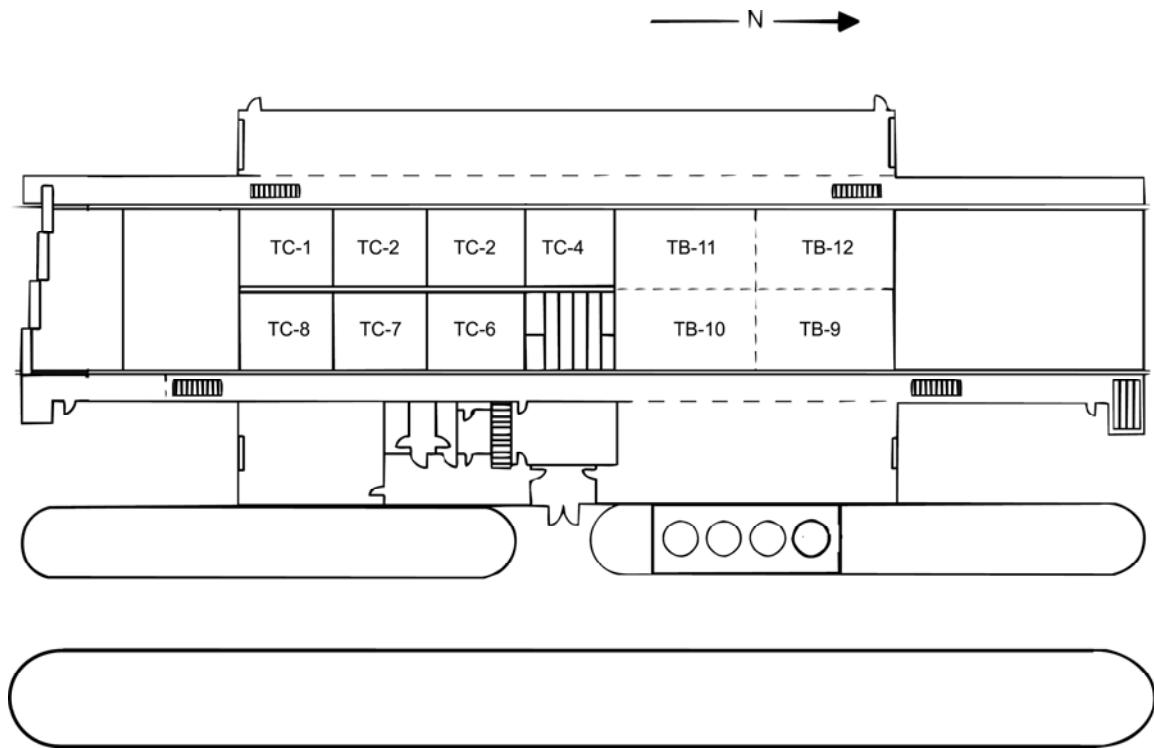


Figure A-2. Plan view of test basins in the Frost Effects Research Facility (FERF)

APPENDIX B: CONSTRUCTION DATA

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

<i>Station</i>	1	2	3	4	5	6	7	T1	T2	T3	T4	BASE
1	1733	1682	1653	1696	1661	1567	1711	1674	1626	1581	1748	2044
2	1724	1743	1619	1783	1725	1599	1784	1687	1648	1627	1656	2284
3	1720	1720	1652	1773	1740	1671	1776	1751	1688	1605	1676	2196
4	1733	1765	1637	1757	1727	1597	1776	1773	1668	1656	1717	2238
5	1741	1767	1573	1775	1712	1660	1786	1775	1668	1696	1730	2143
6	1762	1746	1611	1792	1691	1677	1797	1757	1744	1672	1711	2015
7	1732	1740	1607	1759	1700	1656	1762	1754	1701	1695	1759	2145
8	1728	1760	1587	1754	1696	1687	1756	1749	1592	1738	1775	2150
9	1733	1760	1635	1760	1700	1695	1804	1764	1672	1717	1783	2228
10	1752	1732	1642	1789	1638	1684	1792	1775	1698	1752	1799	2188
11	1751	1749	1653	1642	1676	1568	1661	1703	1603	1615	1660	2206
12	1730	1757	1671	1741	1716	1618	1733	1672	1555	1619	1749	2102
13	1685	1780	1648	1770	1676	1692	1728	1650	1680	1711	1685	2094
14	1752	1733	1679	1751	1711	1658	1741	1765	1698	1627	1733	2066
15	1738	1767	1658	1759	1711	1687	1764	1839	1733	1732	1635	2052
16	1748	1762	1624	1781	1702	1684	1712	1770	1666	1696	1746	1980
17	1728	1778	1661	1764	1704	1703	1768	1802	1704	1772	1776	2055
18	1722	1770	1634	1733	1697	1720	1783	1780	1733	1762	1776	2161
19	1751	1764	1595	1775	1703	1706	1799	1770	1692	1799	1746	1909
20	1784	1760	1635	1780	1731	1717	1796	1813	1684	1748	1815	2169
21	1711	1725	1653	1704	1681	1685	1660	1834	1627	1608	1650	1768
22	1692	1719	1658	1751	1727	1664	1709	1868	1637	1668	1682	2055
23	1709	1716	1677	1797	1713	1751	1749	1807	1679	1605		2086
24	1754	1722	1645	1791	1703	1655	1764	1897	1648	1663	1695	1994
25	1760	1728	1618	1781	1708	1692	1783	1885	1704	1645	1682	2065
26	1738	1756	1639	1791	1689	1724	1736	1839	1719	1677	1706	1953
27	1717	1725	1627	1800	1692	1706	1792	1874	1711	1656	1716	1858
28	1727	1733	1642	1748	1675	1719	1816	1858	1695	1653	1741	2046
29	1741	1730	1631	1800	1703	1751	1796	1852	1680	1818	1724	1962
30	1695	1732	1623	1776	1714	1752	1781	1884	1684	1706	1770	1921

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

<i>Station</i>	<i>Moisture Content (%)</i>												
	1	2	3	4	5	6	7	T1	T2	T3	T4	BASE	
1	16.8	16.6	16.7	10.8	13.5	14.1	17.4	16.1	15.8	13.3	15.7	2.1	
2	18.2	15.9	17.4	10.5	14.5	13.7	16.7	16.1	15.7	14.2	16.5	2.1	
3	18.4	16.1	16.6	12.4	14.0	13.6	17.5	16.8	15.5	15.7	17.2	2.4	
4	18.3	15.7	16.1	11.8	14.3	14.9	17.6	16.2	17	16.4	17.7	2.5	
5	17.6	15.4	15.7	13.3	13.2	14.6	17.2	16.7	14.1	16.2	15.9	2.6	
6	17.4	15.8	14.5	13.3	13.2	14.4	16.6	15.5	15	16.6	16.5	2.5	
7	18.7	14.8	14.7	13.3	12.9	14.1	17.4	16.5	16	16.2	16.1	2.8	
8	18	15.2	14.7	12.9	13.3	13.2	17.2	16	15.8	17.2	15.6	2.7	
9	18.5	14.5	14.3	14.5	12.3	13.1	16	15.8	14.9	14	15.7	2.3	
10	18.6	13.8	14.3	13.5	13.3	12.2	15.7	15.1	15.4	16.2	16.8	2.4	
11	17.4	16.6	16.6	10.8	14.7	15.7	16.9	15	15.4	15.7	14.1	1.9	
12	18.8	17.2	16.7	10.9	14.6	14.7	16.8	15.6	14.9	14.9	17.3	2.1	
13	18.1	15.7	17.6	12.6	15.1	14.1	17.9	15.9	14.7	15.3	15.1	2.4	
14	18.1	16.9	18	13.4	15.2	15.8	17.2	15.7	16.9	15.5	16.7	2.7	
15	17.4	15.4	16.4	13.3	14.4	14.9	17.5	14	15.5	17.2	16.6	2.6	
16	17.1	15.3	15	12.9	15.1	14.4	18.3	15.6	15.9	16.3	17	2.5	
17	16.6	14.7	15.6	14.4	14.6	14	17.2	15.8	14.4	15.6	17.8	2.9	
18	17.5	15.4	15.4	14.5	14.5	13.1	17.3	15.8	15.6	15.3	16.1	2.6	
19	17.3	15.2	14.7	15.2	14.5	14.2	16	14.8	14.8	14.6	16.3	2.7	
20	17.6	14.3	14.6	14.2	15.4	13.9	16.4	14.2	15.8	15.8	16.3	2.5	
21	17.8	16.1	16.5	11.8	15.7	16.1	18.7	14.9	16.9	16.7	17.3	1.7	
22	17	16.8	17.5	12.9	16.0	17.5	18.3	15	16.6	18.3	15.9	2.2	
23	17.7	16.4	17.4	13.5	16.0	16.5	17.4	15.5	15.8	18.9		2.6	
24	17.1	15.9	17.9	13	15.7	15.6	18.4	15	16	16.2	16.5	2.4	
25	16.7	14.8	17	13.9	14.6	15.2	17.8	15.1	16.2	13	16.1	2.2	
26	17.3	13.8	16.2	14.3	15.7	14.6	18.1	15.4	16.7	14.9	17.1	2.6	
27	16.9	14.4	16.3	14.1	15.2	13.9	18.2	15.5	15.9	16.2	17.2	2.6	
28	17.7	14	14.8	15.4	15.9	14.2	17.4	15.2	15.6	14.7	16.1	2.2	
29	17.6	14.3	15.4	14.5	16.3	13.6	17.9	15.3	15.6	16.2	16.5	2	
30	18.5	13.5	15.2	14.3	15.8	15.3	16.8	14.3	16.3	16.3	16.9	2.3	

Table B-3. As constructed layer thickness of the various layers

STATION	Layer thickness (mm)										BASE	ASPHALT	
	1	2	3	4	5	6	7	T1	T2	T3	T4		
1	323	311	213	393	332	247	125	137	372	271	366	180	94
2	296	311	201	381	387	216	168	149	390	247	354	180	79
3	280	320	213	378	402	149	226	174	369	250	332	198	73
4	280	305	244	375	415	110	244	174	357	265	317	198	85
5	296	283	247	390	387	125	241	168	347	277	311	198	91
6	274	296	235	402	354	174	210	192	290	329	299	195	94
7	281	317	226	390	344	186	204	201	274	344	293	198	104
8	257	335	219	393	338	198	192	195	296	341	274	204	104
9	273	338	207	378	351	216	189	189	296	326	308	198	98
10	283	357	198	357	384	198	171	210	274	341	290	223	94
11	280	366	219	344	360	204	143	223	305	338	290	204	94
12	268	393	216	338	363	189	104	253	332	311	305	204	82
13	318	326	235	372	347	238	122	155	351	274	390	168	98
14	312	314	213	341	433	186	174	162	347	287	363	180	76
15	310	314	216	357	427	122	235	146	360	308	329	186	70
16	316	302	244	363	424	101	247	155	351	287	338	192	85
17	320	299	259	363	411	101	235	155	338	320	308	204	91
18	323	290	271	372	384	143	207	177	317	326	302	201	94
19	332	283	268	366	381	149	216	198	283	341	283	210	88
20	326	308	241	381	387	155	210	180	302	335	277	229	82
21	323	317	219	384	402	155	201	177	302	332	274	241	85
22	327	341	229	354	408	158	183	189	311	335	277	238	73
23	315	354	226	354	393	165	149	210	338	320	287	223	76
24	283	408	195	351	387	155	125	241	332	308	305	213	82
25	328	326	247	375	357	198	165	219	274	271	369	177	110
26	335	308	232	338	427	162	189	204	290	299	375	165	91
27	311	317	223	338	405	134	229	168	320	332	341	186	70
28	348	305	241	338	402	125	238	165	341	293	344	201	76
29	353	302	247	354	418	101	244	165	338	302	320	213	76
30	346	308	244	360	421	107	226	180	323	308	305	223	76

Table B-3. As constructed layer thickness of the various layers (continued)

STATION	Layer thickness (mm)										BASE	ASPHALT	
	1	2	3	4	5	6	7	T1	T2	T3	T4		
31	279	314	235	366	424	113	216	213	302	311	308	210	73
32	337	311	232	372	430	119	204	207	299	317	302	216	76
33	353	320	223	381	424	122	204	198	305	302	287	244	82
34	331	347	219	378	421	134	180	192	323	305	302	216	85
35	340	351	213	369	405	146	149	232	326	311	299	207	82
36	296	399	195	351	415	140	140	235	317	308	323	198	82
37	332	320	253	378	424	110	174	262	244	262	363	229	85
38	326	296	259	338	424	122	213	219	290	277	375	186	91
39	351	287	247	357	399	110	238	189	317	305	360	186	76
40	341	280	247	347	405	104	253	183	344	277	360	192	73
41	358	293	250	329	427	94	244	183	344	287	357	189	79
42	337	320	223	347	415	122	216	207	332	299	317	207	79
43	343	335	213	351	418	122	213	216	326	299	317	201	76
44	358	317	219	372	424	116	216	210	314	305	311	207	79
45	345	305	232	390	421	113	219	195	314	317	290	223	79
46	371	317	216	396	411	140	180	201	317	329	283	210	88
47	368	326	213	375	396	162	177	204	329	326	280	210	88
48	295	335	235	363	408	152	177	192	323	305	326	177	101

Table B-4. As constructed CLEGG hammer CBR of the various layers

STATION	CLEGG hammer CBR (%)										
	1	2	3	4	5	6	7	T1	T2	T3	T4
1	2.5	4.5	5.7	7.0	7.0	4.5	4.5	4.5	5.7	5.7	
2	2.5	4.5	7.0	5.7	8.5	4.5	8.5	5.7	4.5	4.5	
3	2.5	2.5	7.0	7.0	8.5	5.7	10.1	5.7	5.7	5.7	
4	3.4	2.5	7.0	7.0	8.5	5.7	8.5	3.4	8.5	4.5	
5	3.4	2.5	7.0	8.5	10.1	7.0	8.5	4.5	10.1	8.5	
6	3.4	2.5	5.7	7.0	11.8	5.7	5.7	4.5	10.1	8.5	
7	3.4	2.5	5.7	5.7	10.1	7.0	7.0	4.5	7.0	8.5	
8	4.5	3.4	4.5	5.7	8.5	5.7	8.5	4.5	11.8	5.7	
9	4.5	3.4	5.7	5.7	7.0	4.5	8.5	5.7	5.7	8.5	
10	5.7	3.4	7.0	5.7	8.5	5.7	10.1	3.4	7.0	7.0	
11	5.7	3.4	5.7	7.0	8.5	5.7	7.0	4.5	11.8	8.5	
12	5.7	3.4	7.0	7.0	7.0	5.7	5.7	4.5	11.8	4.5	
13	3.4	4.5	5.7	8.5	7.0	4.5	7.0	3.4	7.0	4.5	
14	3.4	3.4	4.5	10.1	8.5	5.7	11.8	7.0	5.7	5.7	
15	3.4	3.4	7.0	11.8	8.5	5.7	4.5	7.0	5.7	8.5	
16	2.5	2.5	5.7	11.8	8.5	5.7	7.0	8.5	10.1	11.8	
17	2.5	2.5	4.5	11.8	10.1	5.7	7.0	10.1	7.0	4.5	
18	2.5	1.8	3.4	10.1	10.1	7.0	10.1	5.7	7.0	5.7	
19	2.5	1.8	4.5	11.8	8.5	7.0	8.5	8.5	11.8	8.5	
20	4.5	2.5	3.4	13.7	7.0	8.5	11.8	8.5	11.8	8.5	
21	2.5	1.8	2.5	13.7	8.5	7.0	7.0	8.5	8.5	4.5	
22	2.5	1.8	3.4	11.8	8.5	5.7	13.7	10.1	11.8	4.5	
23	2.5	1.8	4.5	11.8	8.5	5.7	13.7	10.1	10.1	3.4	
24	3.4	4.5	7.0	11.8	7.0	5.7		8.5	10.1	5.7	
25	3.4	3.4	5.7	7.0	5.7	5.7	10.1	4.5	7.0	4.5	
26	1.8	2.5	3.4	7.0	7.0	5.7	11.8	4.5	8.5	11.8	
27	2.5	4.5	3.4	7.0	7.0	5.7	13.7	8.5	7.0	8.5	
28	2.5	5.7	2.5	8.5	7.0	7.0	17.9	8.5	8.5	11.8	
29	2.5	3.4	3.4	7.0	8.5	8.5	10.1	11.8	13.7	7.0	
30	2.5	2.5	4.5	8.5	7.0	7.0	10.1	10.1	10.1	8.5	

Table B-4. As constructed CLEGG hammer CBR of the various layers (continued)

STATION	1	CLEGG hammer CBR (%)									
		2	3	4	5	6	7	T1	T2	T3	T4
31		3.4	3.4	3.4	10.1	5.7	5.7	11.8	8.5	8.5	4.5
32		3.4	3.4	3.4	11.8	7.0	5.7	11.8	7.0	7.0	10.1
33		2.5	2.5	3.4	11.8	5.7	7.0	11.8	7.0	7.0	11.8
34		2.5	3.4	4.5	13.7	5.7	5.7	10.1	8.5	8.5	8.5
35		2.5	4.5	5.7	11.8	5.7	5.7	8.5	10.1	11.8	10.1
36		2.5	4.5	4.5	7.0	5.7	5.7	10.1	2.5	5.7	7.0
37		1.8	4.5	3.4	8.5	5.7	7.0	11.8	2.5	7.0	5.7
38		2.5	2.5	2.5	8.5	7.0	7.0	11.8	3.4	7.0	8.5
39		2.5	2.5	2.5	7.0	7.0	8.5	15.8	5.7	8.5	10.1
40		2.5	1.8	3.4	8.5	7.0	7.0	11.8	7.0	8.5	7.0
41		2.5	3.4	4.5	8.5	7.0	7.0	11.8	8.5	10.1	13.7
42		2.5	2.5	3.4	10.1	5.7	7.0	11.8	8.5	8.5	7.0
43		2.5	2.5	3.4	10.1	7.0	5.7	10.1	7.0	8.5	5.7
44		3.4	2.5	3.4	11.8	7.0	5.7	10.1	5.7	13.7	10.1
45		3.4	2.5	2.5	8.5	8.5	7.0	10.1	7.0	5.7	8.5
46		3.4	1.8	3.4	8.5	7.0	5.7	8.5	5.7	8.5	4.5
47		3.4	3.4	4.5	8.5	7.0	5.7	8.5	8.5	10.1	8.5
48		3.4	3.4	3.4	10.1	5.7	5.7	11.8	8.5	8.5	4.5

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)
401	3.05	4.57	152	186	3.05	3.20	610
402	3.20	4.57	152	164	3.05	3.35	764
403	3.05	4.42	152	165	3.20	3.35	764
221	3.05	4.57	298	166	3.05	3.20	764
222	3.20	4.57	298	144	3.05	3.35	908
223	3.05	4.42	298	145	3.20	3.35	908
201	3.05	4.57	457	146	3.05	3.20	908
202	3.20	4.57	457	124	3.05	3.35	1048
203	3.05	4.42	457	125	3.20	3.35	1048
181	3.05	4.57	610	126	3.05	3.20	1048
182	3.20	4.57	610	104	3.05	3.35	1207
183	3.05	4.42	610	105	3.20	3.35	1208
161	3.05	4.57	762	106	3.05	3.20	1207
162	3.20	4.57	762	407	3.05	2.13	152
163	3.05	4.42	762	408	3.20	2.13	152
141	3.05	4.57	908	409	3.05	1.98	152
142	3.20	4.57	902	227	3.05	2.13	292
143	3.05	4.42	908	228	3.20	2.13	292
121	3.05	4.57	1029	229	3.05	1.98	292
122	3.20	4.57	1029	207	3.05	2.13	457
123	3.05	4.42	1029	208	3.20	2.13	457
101	3.05	4.57	1181	209	3.05	1.98	457
102	3.20	4.57	1187	187	3.05	2.13	610
103	3.05	4.42	1187	188	3.20	2.13	610
404	3.05	3.35	152	189	3.05	1.98	610
405	3.20	3.35	152	167	3.05	2.13	762
406	3.05	3.20	152	168	3.20	2.13	762
224	3.05	3.35	305	169	3.05	1.98	762
225	3.20	3.35	305	147	3.05	2.13	902
226	3.05	3.20	305	148	3.20	2.13	902
204	3.05	3.35	457	149	3.05	1.98	902
205	3.20	3.35	457	127	3.05	2.13	1060
206	3.05	3.20	457	128	3.20	2.13	1060
184	3.05	3.35	610	129	3.05	1.98	1060
185	3.20	3.35	610	107	3.05	2.13	1232

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

ID	X (m)	Y (m)	Z (mm)	ID	X (m)	Y (m)	Z (mm)
108	3.20	2.13	1232	193	18.14	3.35	610
109	3.05	1.98	1232	194	18.29	3.35	610
410	18.14	4.57	152	195	18.14	3.20	610
411	18.29	4.57	152	173	18.14	3.35	762
412	18.14	4.42	152	174	18.29	3.35	762
230	18.14	4.57	308	175	18.14	3.20	762
231	18.29	4.57	308	153	18.14	3.35	908
232	18.14	4.42	308	154	18.29	3.35	908
210	18.14	4.57	457	155	18.14	3.20	908
211	18.29	4.57	457	133	18.14	3.35	1022
212	18.14	4.42	457	134	18.29	3.35	1022
190	18.14	4.57	610	135	18.14	3.20	1022
191	18.29	4.57	610	113	18.14	3.35	1181
192	18.14	4.42	610	114	18.29	3.35	1181
170	18.14	4.57	762	115	18.14	3.20	1181
171	18.29	4.57	762	416	18.14	2.13	152
172	18.14	4.42	762	417	18.29	2.13	152
150	18.14	4.57	902	418	18.14	1.98	152
151	18.29	4.57	902	236	18.14	2.13	318
152	18.14	4.42	902	237	18.29	2.13	318
130	18.14	4.57	1022	238	18.14	1.98	318
131	18.29	4.57	1022	216	18.14	2.13	457
132	18.14	4.42	1022	217	18.29	2.13	457
110	18.14	4.57	1181	218	18.14	1.98	457
111	18.29	4.57	1175	196	18.14	2.13	610
112	18.14	4.42	1168	197	18.29	2.13	610
413	18.14	3.35	152	198	18.14	1.98	610
414	18.29	3.35	152	176	18.14	2.13	762
415	18.14	3.20	152	177	18.29	2.13	762
233	18.14	3.35	318	178	18.14	1.98	762
234	18.29	3.35	318	156	18.14	2.13	902
235	18.14	3.20	318	157	18.29	2.13	902
213	18.14	3.35	457	158	18.14	1.98	902
214	18.29	3.35	457	136	18.14	2.13	1041
215	18.14	3.20	457	137	18.29	2.13	1041

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

ID	X (m)	Y (m)	Z (mm)
138	18.14	1.98	1041
116	18.14	2.13	1207
117	18.29	2.13	1207
118	18.14	1.98	1207

Table C-2. Location of DYNATEST pressure cells

ID	F.S. Range (kPa)	Measurement			Location		
		Test Window	Orientation	X (m)	Y (m)	Z (mm)	
B.3.3	800	702C1	Z	5.45	4.57	457	
A.3.12	200	702C1	X	5.74	4.57	406	
A.3.8	200	701C2	Y	6.16	4.57	406	
B.3.1	800	702C2	Z	5.44	3.35	451	
A.3.1	200	702C2	X	5.77	3.35	413	
A3.7	200	702C2	Y	6.15	3.35	406	
B.3.7	800	702C2	Z	5.44	3.35	895	
A.3.3	200	702C2	X	5.77	3.35	914	
A.3.11	200	702C2	Y	6.15	3.35	914	

Table C-3. Location of VITEL moisture sensors

ID	Location		
	X (m)	Y (m)	Z (m)
V400	4.17	5.38	1.83
V401	16.21	1.42	1.55
V402	10.67	3.94	1.22
V403	4.88	1.42	0.89
V404	16.15	5.33	0.60
V399	10.69	2.74	0.32

Table C-4. Location of temperature sensors

ID	Location		
	X (m)	Y (m)	Z* (mm)
T1	3.58	3.96	1334
T2	18.75	2.74	1448
T3	3.58	3.96	279
T4	18.75	2.74	267

* Top of rod

Table C-5. Location of subsurface thermocouples in base and subgrade

ID	Depth from AC surface	
	(mm)	
TM1	76	76
TM2	178	178
TM3	305	305
TM4	305	457
TM5	457	610
TM6	610	762
TM7	762	914
TM8	914	1067

TM9	1067	1219
TM10	1219	1372
TM11	1524	1524
TM12	1676	1676
TM13	1829	1829
TM14	1981	1981
TM15	2134	2134
TM16	2286	2286
TM17	2438	2438
TM18	2591	2591

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.

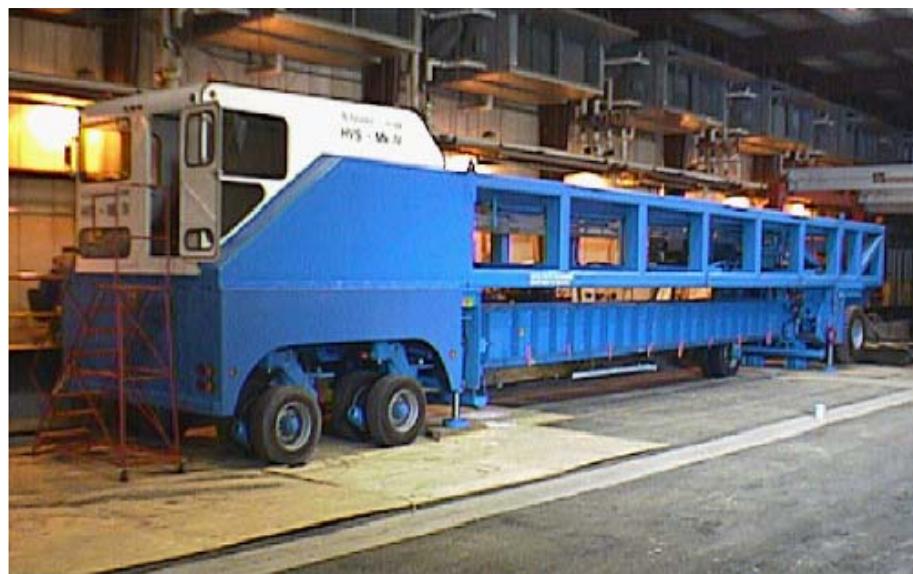


Figure D-1. Heavy Vehicle Simulator (HVS)

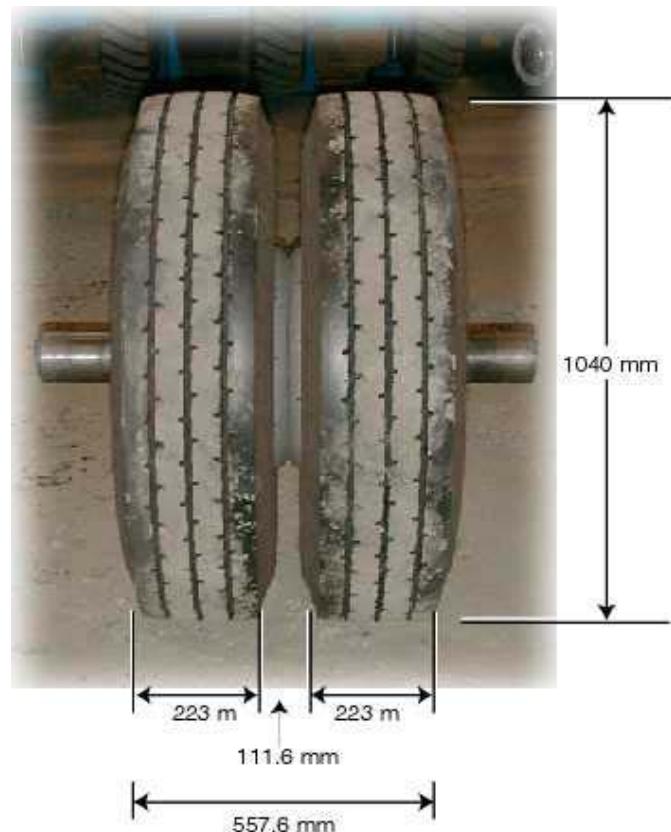


Figure D-2. Dimensions of the test tire

APPENDIX E

Table E-1. Maximum measured peak stress in subgrade

702C1			Load = 67-kN, Tire pressure = 716-kPa									
	z = 457-mm			z = 406-mm			z = 406-mm					
Load Reps	Position 1	Position 2	Position 3	VERTICAL STRESS (kPa)			LONGITUDINAL STRESS (kPa)			TRANSVERSE STRESS (kPa)		
				Position 1	Position 2	Position 3	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3
0	-55.9	-66.2	-59.0	-11.6	-12.5	-9.9	-1.9	-2.2	-8.3			
500	-46.7	-58.1	-51.4	-13.1	-14.2	-11.7	-1.9	-3.3	-10.0			
1000	-48.9	-58.5	-49.8	-13.1	-13.8	-10.8	-1.6	-3.4	-9.9			
2500	-46.7	-56.7	-48.7	-12.6	-13.1	-9.9	-2.1	-4.8	-11.0			
5000	-45.1	-55.5	-46.4	-11.2	-11.7	-8.5	-2.3	-5.0	-10.7			
10000	-42.6	-40.2	-47.2	-7.4	-3.6	-5.4	-2.6	-4.4	-10.9			
25000	-30.3	-44.4	-33.4	-0.6	-0.5	-0.5	-0.5	-0.5	-2.0			
51431	-28.5	-42.7	-32.3	-0.3	-0.3	-0.5	-0.4	-1.2	-5.5			

702C2			Load = 81-kN, Tire pressure = 707-kPa									
	z = 451-mm			z = 413-mm			z = 406-mm					
Load Reps	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3
0	-88.21	-100.55	-100.55	-6.10	-9.69	-9.69	-4.81	-1.23	-1.23			
500	-97.44	-102.87	-96.50	-7.15	-8.55	-6.64	-1.53	-0.79	-1.35			
1000	-97.40	-103.06	-92.15	-5.05	-6.17	-4.74	-0.81	-0.85	-1.11			
2500	-100.28	-106.87	-94.11	-1.69	-3.09	-1.33	-0.74	-0.62	-0.79			
5000	-102.30	-109.95	-96.73	-1.09	-1.42	-1.50	-0.69	-0.87	-0.94			
10000	-101.41	-109.69	-96.41	-0.98	-1.11	-1.20	-0.32	-0.60	-0.60			
25000	-104.47	-115.25	-101.53	-1.39	-1.18	-1.47	-0.40	-0.51	-0.89			
46500	-106.51	-120.98	-107.16	-1.49	-1.79	-1.69	-0.52	-0.56	-0.58			
z = 895-mm			z = 914-mm			z = 914-mm						
Load Reps	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3	Position 1	Position 2	Position 3
0	-14.08	-21.83	-21.84	-3.74	-4.48	-4.47	-2.44	-2.96	-2.96			
500	-19.53	-23.00	-21.04	-4.93	-5.15	-4.74	-2.34	-2.30	-2.23			
1000	-19.64	-23.24	-21.98	-5.06	-5.59	-5.51	-2.09	-2.04	-1.81			
2500	-22.28	-26.12	-22.92	-5.48	-6.03	-5.68	-2.25	-2.04	-1.30			
5000	-24.26	-27.90	-24.33	-5.97	-6.19	-6.68	-2.08	-1.87	-1.84			
10000	-24.20	-26.84	-23.08	-6.42	-6.86	-6.37	-1.91	-1.80	-1.32			
25000	-26.68	-29.21	-25.29	-6.95	-7.65	-7.38	-1.78	-1.75	-1.48			
46500	-26.89	-31.89	-27.44	-7.67	-8.60	-7.88	-1.68	-1.59	-1.66			

Table E-2-1. Maximum peak vertical displacements in subgrade (TS702C1)

702C1		Vertical Displacement (mm)						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	-0.1619	-0.3359	-0.1913	-0.1097	-0.0641	-0.0416	-0.0349	
500	-0.1611	-0.3508	-0.1981	-0.1192	-0.0678	-0.0421	-0.0357	
1000	-0.1691	-0.3675	-0.2078	-0.1203	-0.0692	-0.0436	-0.0356	
2500	-0.1817	-0.4036	-0.2260	-0.1287	-0.0749	-0.0461	-0.0388	
5000	-0.1913	-0.4440	-0.2452	-0.1438	-0.0796	-0.0488	-0.0398	
10000	-0.2104	-0.4957	-0.2733	-0.1557	-0.0867	-0.0532	-0.0420	
25000	-0.2418	-0.5688	-0.3196	-0.1874	-0.0992	-0.0576	-0.0467	
51431	-0.2204	-0.5152	-0.3152	-0.1867	-0.0989	-0.0559	-0.0457	
Reps		Position 2						
0	-0.1792	-0.4515	-0.2630	-0.1531	-0.0638	-0.0511	-0.0417	
500	-0.1820	-0.4746	-0.2736	-0.1511	-0.0888	-0.0532	-0.0451	
1000	-0.1870	-0.4954	-0.2893	-0.1597	-0.0921	-0.0544	-0.0461	
2500	-0.2064	-0.5487	-0.3170	-0.1726	-0.0996	-0.0584	-0.0498	
5000	-0.2198	-0.5983	-0.3415	-0.1876	-0.1050	-0.0621	-0.0521	
10000	-0.2488	-0.6753	-0.3795	-0.2109	-0.1115	-0.0665	-0.0546	
25000	-0.2903	-0.7883	-0.4477	-0.2452	-0.1324	-0.0740	-0.0596	
51431	-0.2600	-0.7622	-0.4443	-0.2442	-0.1330	-0.0755	-0.0594	
Reps		Position 3						
0	-0.1202	-0.3844	-0.2290	-0.1317	-0.0779	-0.0483	-0.0428	
500	-0.1261	-0.4006	-0.2409	-0.1327	-0.0794	-0.0490	-0.0418	
1000	-0.1290	-0.4198	-0.2497	-0.1360	-0.0833	-0.0515	-0.0446	
2500	-0.1441	-0.4689	-0.2754	-0.1479	-0.0909	-0.0541	-0.0462	
5000	-0.1496	-0.5131	-0.2995	-0.1610	-0.0955	-0.0578	-0.0491	
10000	-0.1704	-0.5797	-0.3314	-0.1864	-0.1044	-0.0618	-0.0509	
25000	-0.1915	-0.6780	-0.3887	-0.2068	-0.1182	-0.0685	-0.0552	
51431	-0.1215	-0.5949	-0.3664	-0.1665	-0.1149	-0.0678	-0.0539	

Table E-2-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C1)

702C1		Longitudinal Displacement (A)						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	-0.0400	-0.0382	-0.0316	-0.0219	-0.0115	-0.0172	-0.0214	
500	-0.0415	-0.0402	-0.0317	-0.0230	-0.0191	-0.0190	-0.0195	
1000	-0.0387	-0.0445	-0.0326	-0.0231	-0.0205	-0.0171	-0.0184	
2500	-0.0461	-0.0492	-0.0355	-0.0251	-0.0205	-0.0171	-0.0182	
5000	-0.0478	-0.0558	-0.0380	-0.0279	-0.0176	-0.0186	-0.0197	
10000	-0.0545	-0.0638	-0.0422	-0.0269	-0.0225	-0.0176	-0.0222	
25000	-0.0684	-0.0780	-0.0499	-0.0343	-0.0216	-0.0178	-0.0168	
51431	-0.2837	-0.0700	-0.0519	-0.0354	-0.0233	-0.0180	-0.0189	
Reps		Position 2						
0	-0.0450	-0.0350	-0.0278	-0.0190	0.0053	-0.0108	-0.0083	
500	-0.0501	-0.0409	-0.0296	-0.0188	-0.0127	-0.0091	-0.0091	
1000	-0.0456	-0.0431	-0.0316	-0.0195	-0.0149	-0.0102	-0.0093	
2500	-0.0539	-0.0507	-0.0358	-0.0211	-0.0178	-0.0098	-0.0090	
5000	-0.0574	-0.0578	-0.0392	-0.0225	-0.0176	-0.0113	-0.0102	
10000	-0.0668	-0.0678	-0.0452	-0.0264	-0.0009	-0.0102	-0.0126	
25000	-0.0905	-0.0924	-0.0540	-0.0327	-0.0197	-0.0112	-0.0095	
51431	-0.2471	-0.0925	-0.0532	-0.0327	-0.0145	-0.0123	-0.0120	
Reps		Position 3						
0	-0.0363	-0.0284	-0.0241	-0.0195	-0.0051	-0.0072	-0.0119	
500	-0.0387	-0.0337	-0.0270	-0.0188	-0.0155	-0.0077	-0.0090	
1000	-0.0371	-0.0373	-0.0262	-0.0170	-0.0111	-0.0086	-0.0091	
2500	-0.0441	-0.0422	-0.0320	-0.0178	-0.0153	-0.0109	-0.0090	
5000	-0.0457	-0.0509	-0.0347	-0.0208	-0.0134	-0.0095	-0.0095	
10000	-0.0540	-0.0607	-0.0393	-0.0240	-0.0090	-0.0098	-0.0134	
25000	-0.0670	-0.0774	-0.0471	-0.0262	-0.0200	-0.0116	-0.0102	
51431	0.6416	-0.0666	-0.0441	-0.0303	-0.0091	-0.0104	-0.0111	

Table E-2-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C1)

702C1		Longitudinal Displacement (B)						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	0.10879	0.08553	0.05014	0.03169	0.02850	0.01971	0.01760	
500	0.11279	0.09005	0.05287	0.03061	0.02251	0.01809	0.01893	
1000	0.12350	0.09534	0.05606	0.03427	0.01664	0.02029	0.02150	
2500	0.13761	0.11016	0.06288	0.03465	0.01576	0.01903	0.01951	
5000	0.14862	0.12580	0.07202	0.03975	0.02476	0.01530	0.01617	
10000	0.20112	0.14912	0.08259	0.04705	0.02387	0.01849	0.01518	
25000	0.25209	0.19192	0.10550	0.05688	0.02457	0.01907	0.01801	
51431	7.85332	0.15639	0.10507	0.05370	0.03020	0.01619	0.01845	
Reps		Position 2						
0	0.1586	0.1107	0.0702	0.0443	0.2072	0.0163	0.0148	
500	0.1579	0.1193	0.0743	0.0443	0.0255	0.0182	0.0205	
1000	0.1695	0.1291	0.0769	0.0481	0.0268	0.0190	0.0164	
2500	0.1931	0.1481	0.0898	0.0522	0.0264	0.0224	0.0162	
5000	0.2162	0.1696	0.1020	0.0619	0.0469	0.0199	0.0206	
10000	0.2962	0.2046	0.1157	0.0676	0.1267	0.0228	0.0206	
25000	0.3911	0.2804	0.1539	0.0873	0.0386	0.0284	0.0234	
51431	6.6883	0.2810	0.1558	0.0850	0.0587	0.0267	0.0196	
Reps		Position 3						
0	0.13755	0.09952	0.06133	0.03678	0.04684	0.01902	0.01400	
500	0.14213	0.09871	0.06378	0.04097	0.02264	0.01571	0.01790	
1000	0.14898	0.10739	0.06732	0.04300	0.02715	0.01844	0.01620	
2500	0.16828	0.12566	0.07567	0.04786	0.02741	0.01936	0.01720	
5000	0.17776	0.14260	0.08810	0.05233	0.03886	0.01924	0.02047	
10000	0.24654	0.17877	0.10248	0.06004	0.03658	0.02465	0.02260	
25000	0.34820	0.24079	0.13133	0.07799	0.03873	0.02618	0.01956	
51431	9.45476	0.21086	0.12312	0.06854	0.05639	0.02571	0.02210	

Table E-2-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C1)

702C1		Longitudinal Displacement ©						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	-0.0172	-0.0302	-0.0316	-0.0206	-0.0069	-0.0172	-0.0127	
500	-0.0208	-0.0324	-0.0292	-0.0230	-0.0174	-0.0172	-0.0155	
1000	-0.0124	-0.0346	-0.0326	-0.0231	-0.0205	-0.0149	-0.0184	
2500	-0.0197	-0.0368	-0.0355	-0.0251	-0.0177	-0.0171	-0.0181	
5000	-0.0179	-0.0407	-0.0380	-0.0279	-0.0158	-0.0163	-0.0145	
10000	-0.0196	-0.0455	-0.0422	-0.0267	-0.0178	-0.0176	-0.0198	
25000	-0.0356	-0.0515	-0.0478	-0.0343	-0.0216	-0.0178	-0.0168	
51431	-0.2837	-0.0536	-0.0473	-0.0354	-0.0233	-0.0180	-0.0185	
Reps		Position 2						
0	-0.0125	-0.0340	-0.0278	-0.0190	0.1640	-0.0108	-0.0083	
500	-0.0152	-0.0342	-0.0296	-0.0188	-0.0127	-0.0091	-0.0080	
1000	-0.0109	-0.0360	-0.0316	-0.0195	-0.0149	-0.0102	-0.0093	
2500	-0.0139	-0.0405	-0.0358	-0.0211	-0.0178	-0.0098	-0.0090	
5000	-0.0163	-0.0455	-0.0392	-0.0225	-0.0174	-0.0113	-0.0102	
10000	-0.0190	-0.0527	-0.0452	-0.0264	0.0635	-0.0102	-0.0126	
25000	-0.0422	-0.0673	-0.0540	-0.0327	-0.0197	-0.0112	-0.0095	
51431	-0.2471	-0.0724	-0.0532	-0.0327	-0.0127	-0.0123	-0.0107	
Reps		Position 3						
0	-0.0136	-0.0284	-0.0241	-0.0195	-0.0024	-0.0072	-0.0119	
500	-0.0122	-0.0305	-0.0270	-0.0188	-0.0155	-0.0077	-0.0090	
1000	-0.0114	-0.0321	-0.0262	-0.0170	-0.0111	-0.0086	-0.0080	
2500	-0.0150	-0.0376	-0.0320	-0.0178	-0.0153	-0.0109	-0.0090	
5000	-0.0157	-0.0421	-0.0347	-0.0208	-0.0134	-0.0095	-0.0072	
10000	-0.0178	-0.0475	-0.0393	-0.0240	-0.0090	-0.0098	-0.0093	
25000	-0.0235	-0.0586	-0.0471	-0.0262	-0.0200	-0.0116	-0.0102	
51431	3.4883	-0.0523	-0.0441	-0.0303	-0.0091	-0.0104	-0.0111	

Table E-2-5. Maximum peak transverse displacements in subgrade (TS702C1)

702C1		Transverse Displacement						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	0.0865	0.0010	0.0413	0.9801	0.0117	0.0096	0.0048	
500	0.0919	0.0836	0.0482	0.9223	0.0088	0.0129	0.0219	
1000	0.0846	0.0771	0.0500	0.9981	0.0097	0.0123	0.0114	
2500	0.1046	0.1175	0.0560	0.9077	0.0112	0.0146	0.0092	
5000	0.1257	0.1454	0.0638	1.1248	0.0110	0.0153	0.0157	
10000	0.1367	0.1368	0.0720	1.7516	0.0128	0.0160	0.0097	
25000	31.3441	0.1411	0.0865	1.4808	0.0135	0.0174	0.0116	
51431	42.0609	0.1263	0.0870	1.2396	0.0152	0.0158	0.0113	
Reps		Position 2						
0	0.1154	0.2118	0.0795	0.9098	0.0320	0.0169	0.0037	
500	0.1220	0.1200	0.0813	0.8871	0.0149	0.0161	0.0148	
1000	0.1083	0.1128	0.0874	0.9807	0.0180	0.0180	0.0165	
2500	0.1446	0.1425	0.0964	1.2054	0.0179	0.0183	0.0087	
5000	0.1537	0.1621	0.1091	1.5429	0.0203	0.0180	0.0159	
10000	0.1753	0.1769	0.1219	2.4812	0.0237	0.0212	0.0120	
25000	18.9682	0.2098	0.1446	1.7707	0.0246	0.0238	0.0153	
51431	58.2810	0.2231	0.1519	0.9647	0.0245	0.0233	0.0135	
Reps		Position 3						
0	0.1153	-0.0693	0.0662	0.9788	0.0185	0.0141	0.0105	
500	0.1218	0.1328	0.0739	1.2080	0.0171	0.0162	0.0097	
1000	0.1225	0.1046	0.0781	1.0762	0.0160	0.0165	0.0081	
2500	0.1195	0.1151	0.0880	1.2339	0.0177	0.0173	0.0101	
5000	0.1398	0.1351	0.1006	1.1177	0.0204	0.0191	0.0110	
10000	0.1431	0.1770	0.1135	2.2106	0.0224	0.0205	0.0120	
25000	93.6691	0.2050	0.1366	1.8787	0.0257	0.0240	0.0159	
51431	3.9940	0.1979	0.1328	1.2874	0.0248	0.0227	0.0139	

Table E-3-1. Maximum peak vertical displacements in subgrade (TS702C2)

702C2		Vertical Displacement (mm)						
Depth (mm)		152	305	457	610	764	908	1027
Reps		Position 1						
0		-0.1389	-0.3172	-0.1938	-0.1518	-0.0743	-0.0631	-0.0405
500		-0.1485	-0.3278	-0.2044	-0.1623	-0.0783	-0.0594	-0.0421
1000		-0.2873	-0.3580	-0.2181	-0.1712	-0.0819	-0.0680	-0.0418
2500		-0.9154	-0.4056	-0.2441	-0.1898	-0.0869	-0.0728	-0.0446
5000		-0.5171	-0.4564	-0.2698	-0.2060	-0.0943	-0.0775	-0.0475
10000		-1.0810	-0.5537	-0.3017	-0.2256	-0.1018	-0.0833	-0.0511
25000		-0.5287	-0.5934	-0.3496	-0.2526	-0.1152	-0.0902	-0.0542
46500		-0.5402	-0.6648	-0.3950	-0.2844	-0.1297	-0.1009	-0.0590
Reps		Position 2						
0		-0.1709	-0.3933	-0.2431	-0.1886	-0.0885	-0.0754	-0.0483
500		-0.4656	-0.4610	-0.2800	-0.2170	-0.1008	-0.0835	-0.0515
1000		-1.2435	-0.5075	-0.3013	-0.2352	-0.1068	-0.0857	-0.0537
2500		-1.9545	-0.5739	-0.3361	-0.2575	-0.1164	-0.0930	-0.0555
5000		-0.6513	-0.6434	-0.3733	-0.2816	-0.1247	-0.0991	-0.0590
10000		-1.7388	-0.8338	-0.4196	-0.3066	-0.1361	-0.1062	-0.0638
25000		-1.3061	-0.8624	-0.4865	-0.3491	-0.1544	-0.1194	-0.0684
46500		-1.0646	-0.9375	-0.5565	-0.3951	-0.1754	-0.1324	-0.0753
Reps		Position 3						
0		-0.1709	-0.3933	-0.2431	-0.1886	-0.0885	-0.0754	-0.0482
500		-0.4310	-0.4335	-0.2586	-0.2002	-0.0928	-0.0732	-0.0475
1000		-0.6384	-0.5651	-0.2843	-0.2187	-0.1014	-0.0801	-0.0510
2500		-2.0233	-0.5667	-0.3132	-0.2394	-0.1077	-0.0851	-0.0536
5000		-1.4839	-0.6721	-0.3480	-0.2611	-0.1187	-0.0898	-0.0563
10000		-2.1702	-0.7971	-0.3862	-0.2841	-0.1280	-0.0972	-0.0587
25000		-2.9320	-0.8723	-0.4505	-0.3260	-0.1466	-0.1086	-0.0649
46500		-2.0919	-0.9131	-0.5095	-0.3609	-0.1616	-0.1184	-0.0714

Table E-3-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C2)

702C2		Longitudinal Displacement (mm)						
Depth (mm)		152	305	457	610	764	908	1027
Reps		Position 1						
0		-0.3439	-0.0501	-0.0419	-0.0315	-0.0187	-0.0177	-0.0154
500		-0.2897	-0.0535	-0.0448	-0.0338	-0.0192	-0.0151	-0.0147
1000		-0.4493	-0.0541	-0.0436	-0.0341	-0.0232	-0.0171	-0.0156
2500		-0.1585	-0.0643	-0.0485	-0.0355	-0.0199	-0.0181	-0.0154
5000		-0.2613	-0.0759	-0.0533	-0.0417	-0.0228	-0.0175	-0.0162
10000		-0.2055	-0.0930	-0.0628	-0.0475	-0.0250	-0.0161	-0.0150
25000		-0.2501	-0.1212	-0.0779	-0.0520	-0.0271	-0.0199	-0.0175
46500		-0.3267	-0.1592	-0.0946	-0.0644	-0.0277	-0.0185	-0.0157
Reps		Position 2						
0		-0.4208	-0.0500	-0.0344	-0.0220	-0.0147	-0.0088	-0.0074
500		-0.3003	-0.0578	-0.0394	-0.0289	-0.0160	-0.0086	-0.0084
1000		-0.6409	-0.0647	-0.0465	-0.0281	-0.0160	-0.0077	-0.0065
2500		-0.2484	-0.0793	-0.0537	-0.0301	-0.0151	-0.0075	-0.0064
5000		-0.2464	-0.0964	-0.0636	-0.0355	-0.0191	-0.0087	-0.0057
10000		-0.3756	-0.1192	-0.0741	-0.0396	-0.0228	-0.0095	-0.0088
25000		-0.3406	-0.1601	-0.0934	-0.0542	-0.0259	-0.0113	-0.0099
46500		-0.4581	-0.1987	-0.1206	-0.0677	-0.0286	-0.0118	-0.0101
Reps		Position 3						
0		-0.4208	-0.0500	-0.0344	-0.0220	-0.0147	-0.0088	-0.0078
500		-0.2538	-0.0499	-0.0366	-0.0194	-0.0147	-0.0060	-0.0066
1000		-0.1154	-0.0629	-0.0417	-0.0244	-0.0150	-0.0083	-0.0061
2500		-0.0954	-0.0703	-0.0460	-0.0274	-0.0153	-0.0067	-0.0073
5000		-0.5191	-0.0862	-0.0599	-0.0320	-0.0196	-0.0071	-0.0075
10000		-0.2942	-0.1017	-0.0659	-0.0356	-0.0190	-0.0093	-0.0076
25000		-0.2285	-0.1427	-0.0847	-0.0479	-0.0220	-0.0108	-0.0075
46500		-0.3472	-0.1736	-0.1089	-0.0558	-0.0236	-0.0100	-0.0082

Table E-3-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C2)

702C2		Longitudinal Displacement (mm)						
Depth (mm)		152	305	457	610	764	908	1027
Reps		Position 1						
0	0	0.0743	0.0958	0.0642	0.0433	0.0230	0.0181	0.0210
500	500	0.0803	0.1115	0.0719	0.0480	0.0247	0.0179	0.0206
1000	1000	0.3009	0.1366	0.0866	0.0515	0.0220	0.0180	0.0202
2500	2500	0.5274	0.1683	0.0963	0.0621	0.0272	0.0171	0.0180
5000	5000	0.2263	0.1954	0.1080	0.0668	0.0283	0.0178	0.0179
10000	10000	0.5078	0.2373	0.1319	0.0763	0.0319	0.0205	0.0189
25000	25000	0.0784	0.2962	0.1576	0.0898	0.0377	0.0233	0.0153
46500	46500	0.0913	0.3523	0.1920	0.1055	0.0508	0.0272	0.0186
Reps		Position 2						
0	0	0.0758	0.1294	0.0853	0.0590	0.0303	0.0168	0.0174
500	500	0.1918	0.1755	0.1074	0.0650	0.0342	0.0214	0.0173
1000	1000	1.0454	0.1964	0.1195	0.0742	0.0337	0.0221	0.0163
2500	2500	1.5998	0.2340	0.1361	0.0864	0.0379	0.0238	0.0172
5000	5000	0.1018	0.2783	0.1549	0.0932	0.0428	0.0258	0.0186
10000	10000	0.9729	0.3749	0.1844	0.1079	0.0456	0.0276	0.0210
25000	25000	0.4470	0.4200	0.2255	0.1281	0.0553	0.0332	0.0201
46500	46500	0.1356	0.5030	0.2752	0.1566	0.0680	0.0397	0.0222
Reps		Position 3						
0	0	0.0758	0.1294	0.0853	0.0590	0.0303	0.0168	0.0179
500	500	0.1289	0.1543	0.0970	0.0652	0.0310	0.0196	0.0153
1000	1000	0.1361	0.2163	0.1127	0.0713	0.0347	0.0209	0.0149
2500	2500	1.4910	0.2161	0.1336	0.0756	0.0349	0.0239	0.0137
5000	5000	0.8543	0.2707	0.1469	0.0871	0.0378	0.0243	0.0155
10000	10000	1.5030	0.3528	0.1771	0.0992	0.0437	0.0255	0.0176
25000	25000	2.1799	0.3978	0.2129	0.1170	0.0514	0.0297	0.0202
46500	46500	1.2132	0.4569	0.2499	0.1426	0.0600	0.0346	0.0234

Table E-3-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C2)

702C2		Longitudinal Displacement (mm)						
Depth (mm)		152	305	457	610	764	908	1027
Reps		Position 1						
0	-0.2901	-0.0364	-0.0293	-0.0246	-0.0187	-0.0159	-0.0122	
500	-0.2392	-0.0381	-0.0337	-0.0272	-0.0192	-0.0151	-0.0130	
1000	-0.3586	-0.0427	-0.0407	-0.0274	-0.0232	-0.0166	-0.0156	
2500	0.1813	-0.0421	-0.0472	-0.0275	-0.0199	-0.0169	-0.0154	
5000	-0.2613	-0.0478	-0.0477	-0.0307	-0.0228	-0.0175	-0.0158	
10000	-0.0750	-0.0503	-0.0501	-0.0294	-0.0250	-0.0157	-0.0150	
25000	-0.0353	-0.0581	-0.0572	-0.0342	-0.0271	-0.0181	-0.0149	
46500	0.0056	-0.0577	-0.0523	-0.0364	-0.0277	-0.0185	-0.0157	
Reps		Position 2						
0	-0.3481	-0.0395	-0.0304	-0.0185	-0.0147	-0.0088	-0.0074	
500	0.0525	-0.0397	-0.0377	-0.0231	-0.0160	-0.0086	-0.0084	
1000	-0.1125	-0.0437	-0.0402	-0.0219	-0.0160	-0.0077	-0.0065	
2500	0.0294	-0.0483	-0.0452	-0.0249	-0.0151	-0.0075	-0.0064	
5000	0.0543	-0.0563	-0.0509	-0.0299	-0.0191	-0.0087	-0.0057	
10000	-0.0294	-0.0584	-0.0556	-0.0306	-0.0228	-0.0095	-0.0088	
25000	-0.0393	-0.0696	-0.0621	-0.0369	-0.0259	-0.0113	-0.0099	
46500	-0.0091	-0.0783	-0.0744	-0.0416	-0.0286	-0.0118	-0.0101	
Reps		Position 3						
0	-0.3481	-0.0395	-0.0304	-0.0185	-0.0147	-0.0088	-0.0078	
500	-0.0882	-0.0376	-0.0327	-0.0188	-0.0147	-0.0060	-0.0066	
1000	0.0509	-0.0334	-0.0363	-0.0244	-0.0150	-0.0083	-0.0061	
2500	-0.0642	-0.0429	-0.0389	-0.0256	-0.0153	-0.0067	-0.0073	
5000	-0.3176	-0.0523	-0.0445	-0.0273	-0.0196	-0.0071	-0.0075	
10000	-0.1916	-0.0548	-0.0467	-0.0312	-0.0190	-0.0093	-0.0076	
25000	-0.0385	-0.0671	-0.0560	-0.0354	-0.0220	-0.0108	-0.0075	
46500	-0.0175	-0.0702	-0.0565	-0.0365	-0.0236	-0.0100	-0.0082	

Table E-3-5. Maximum peak transverse displacements in subgrade (TS702C2)

702C2		Transverse Displacement (mm)						
Depth (mm)		152	305	457	610	764	908	1027
Reps		Position 1						
0	0.4140	0.0931	0.0577	0.0350	0.0219	0.0174	0.0158	
500	0.3390	0.0845	0.0496	0.0291	0.0192	0.0162	0.0164	
1000	0.4730	0.1028	0.0562	0.0351	0.0179	0.0177	0.0158	
2500	0.1328	0.1101	0.0594	0.0387	0.0211	0.0182	0.0169	
5000	0.3206	0.1009	0.0648	0.0377	0.0190	0.0222	0.0149	
10000	0.1525	0.1447	0.0780	0.0432	0.0219	0.0208	0.0186	
25000	0.1445	0.1729	0.0856	0.0460	0.0228	0.0216	0.0196	
46500	0.1963	0.1460	0.0969	0.0485	0.0225	0.0244	0.0193	
Reps		Position 2						
0	0.4947	0.1062	0.0710	0.0417	0.0262	0.0202	0.0179	
500	0.2541	0.1066	0.0797	0.0504	0.0227	0.0214	0.0173	
1000	0.6269	0.0994	0.0880	0.0526	0.0270	0.0194	0.0191	
2500	0.1749	0.1558	0.0980	0.0589	0.0286	0.0261	0.0208	
5000	0.1202	0.2030	0.1072	0.0610	0.0287	0.0256	0.0164	
10000	0.2327	0.2385	0.1264	0.0694	0.0282	0.0266	0.0221	
25000	0.1625	0.2188	0.1373	0.0810	0.0329	0.0295	0.0223	
46500	0.2133	0.2203	0.1561	0.0860	0.0373	0.0293	0.0247	
Reps		Position 3						
0	0.2695	0.1062	0.0710	0.0417	0.0262	0.0202	0.0186	
500	0.2083	0.0515	0.0755	0.0481	0.0225	0.0226	0.0124	
1000	0.0790	0.1759	0.0908	0.0538	0.0241	0.0239	0.0130	
2500	0.1248	0.1347	0.1016	0.0588	0.0247	0.0245	0.0167	
5000	0.4701	0.0771	0.1096	0.0673	0.0250	0.0238	0.0156	
10000	0.3218	0.2268	0.1294	0.0737	0.0278	0.0279	0.0142	
25000	0.2517	0.2407	0.1422	0.0811	0.0327	0.0282	0.0177	
46500	0.2707	0.2202	0.1531	0.0922	0.0355	0.0319	0.0197	

Table E-4-1. Maximum peak vertical displacements in subgrade (TS702C3)

702C3		Vertical Displacement (mm)						
Depth (mm)		152	292	457	610	762	902	1060
Reps		Position 1						
0		-0.2417	-0.2975	-0.1796	-0.1023	-0.0473	-0.0493	-5.5310
500		-0.2517	-0.2899	-0.1942	-0.1115	-0.0484	-0.0496	-4.9779
1000		-0.2626	-0.3297	-0.2040	-0.1194	-0.0499	-0.0519	-5.7601
2500		-0.2853	-0.3657	-0.2226	-0.1261	-0.0521	-0.0530	-6.7765
5000		-0.3095	-0.4006	-0.2377	-0.1333	-0.0572	-0.0565	-5.1360
10700		-0.3464	-0.4606	-0.2614	-0.1508	-0.0625	-0.0620	-3.8203
25000		-0.3678	-0.5164	-0.2854	-0.1640	-0.0371	-0.0644	-8.2530
56036		-0.3005	-0.4521	-0.2989	-0.1733	-0.0701	-0.0682	-9.8902
Reps		Position 2						
0		-0.2930	-0.4059	-0.2374	-0.1420	-0.0634	-0.0634	-6.7321
500		-0.3118	-0.4214	-0.2643	-0.1571	-0.0640	-0.0652	-5.5797
1000		-0.3196	-0.4650	-0.2768	-0.1656	-0.0685	-0.0681	-8.4454
2500		-0.3601	-0.5279	-0.3037	-0.1791	-0.0723	-0.0716	-7.2467
5000		-0.3841	-0.5774	-0.3252	-0.1894	-0.0754	-0.0742	-5.9012
10700		-0.4389	-0.6588	-0.3601	-0.2132	-0.0808	-0.0802	-8.0762
25000		-0.4875	-0.5860	-0.4029	-0.2389	-0.0894	-0.0893	-9.9784
56036		-0.5427	-0.7852	-0.4347	-0.2609	-0.0976	-0.0938	-13.0372
Reps		Position 3						
0		-0.2963	-0.3543	-0.1994	-0.1250	-0.0563	-0.0576	-9.0201
500		-0.3035	-0.3965	-0.2268	-0.1405	-0.0583	-0.0598	-5.1897
1000		-0.3191	-0.4401	-0.2373	-0.1507	-0.0608	-0.0620	-8.4553
2500		-0.3555	-0.4927	-0.2591	-0.1586	-0.0635	-0.0644	-6.1541
5000		-0.3769	-0.5369	-0.2779	-0.1691	-0.0679	-0.0676	-7.8412
10700		-0.4273	-0.6225	-0.3064	-0.1876	-0.0718	-0.0733	-5.7045
25000		-0.4670	-0.6901	-0.3400	-0.2092	-0.0779	-0.0776	-17.7990
56036		-0.8035	-0.7078	-0.3644	-0.2298	-0.0864	-0.0826	-11.0748

Table E-4-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C3)

702C3		Longitudinal Displacement (mm)						
Depth (mm)		152	292	457	610	762	902	1060
Reps		Position 1						
0	-0.0353	-0.0380	-0.0321	-0.0162	-0.0132	-0.0164	-0.0212	
500	-0.0311	-0.0370	-0.0310	-0.0161	-0.0139	-0.0134	-0.0138	
1000	-0.0368	-0.0480	-0.0312	-0.0203	-0.0158	-0.0164	-0.0153	
2500	-0.0347	-0.0556	-0.0330	-0.0202	-0.0168	-0.0153	-0.0190	
5000	-0.0506	-0.0526	-0.0430	-0.0253	-0.0209	-0.0171	-0.0184	
10700	-0.0451	-0.0678	-0.0425	-0.0263	-0.0223	-0.0177	-0.0130	
25000	-0.0316	-0.0790	-0.0451	-0.0292	-0.0252	-0.0192	-0.0175	
56036	-0.9698	-0.0800	-0.0460	-0.0286	-0.0231	-0.0180	-0.0062	
Reps		Position 2						
0	-0.0351	-0.0531	-0.0213	-0.0111	-0.0069	-0.0099	-0.0726	
500	-0.0407	-0.0498	-0.0276	-0.0118	-0.0058	-0.0075	-0.0068	
1000	-0.0336	-0.0573	-0.0312	-0.0163	-0.0102	-0.0086	-0.0051	
2500	-0.0268	-0.0671	-0.0339	-0.0160	-0.0083	-0.0096	-0.0112	
5000	-0.0455	-0.0796	-0.0413	-0.0185	-0.0116	-0.0091	-0.0062	
10700	-0.0469	-0.0997	-0.0449	-0.0215	-0.0113	-0.0101	-0.0010	
25000	-0.1128	-0.0876	-0.0493	-0.0257	-0.0117	-0.0099	-0.0135	
56036	-93.4906	-0.1413	-0.0585	-0.0281	-0.0142	-0.0098	-0.0029	
Reps		Position 3						
0	-0.0303	-0.0509	-0.0192	-0.0100	-0.0058	-0.0096	-0.0148	
500	-0.0466	-0.0448	-0.0200	-0.0101	-0.0065	-0.0059	-0.0062	
1000	-0.0225	-0.0540	-0.0233	-0.0135	-0.0086	-0.0067	-0.0053	
2500	-0.2118	-0.0578	-0.0272	-0.0149	-0.0085	-0.0077	0.0109	
5000	-0.0311	-0.0709	-0.0341	-0.0169	-0.0101	-0.0072	-0.0430	
10700	-0.0381	-0.0838	-0.0424	-0.0202	-0.0109	-0.0079	-0.0080	
25000	-0.0437	-0.1075	-0.0455	-0.0238	-0.0132	-0.0091	-0.0098	
56036	-184.8313	-0.1295	-0.0623	-0.0271	-0.0114	-0.0086	-0.0503	

Table E-4-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C3)

702C3		Longitudinal Displacement (mm)						
Depth (mm)		152	292	457	610	762	902	1060
Reps		Position 1						
0	0.1260	0.0822	0.0538	0.0451	0.0290	0.0254	0.0226	
500	0.1306	0.1080	0.0574	0.0459	0.0284	0.0256	0.0247	
1000	0.1359	0.1108	0.0578	0.0395	0.0200	0.0186	0.0186	
2500	0.1502	0.1337	0.0670	0.0442	0.0217	0.0185	0.0176	
5000	0.1457	0.1445	0.0712	0.0459	0.0227	0.0187	0.0173	
10700	0.1946	0.1722	0.0826	0.0505	0.0235	0.0174	0.0182	
25000	0.2846	0.2106	0.1024	0.0544	0.0170	0.0179	0.0195	
56036	-0.1838	0.1760	0.1154	0.0602	0.0252	0.0178	0.0252	
Reps		Position 2						
0	0.1671	0.1056	0.0639	0.0474	0.0224	0.0171	0.0146	
500	0.1667	0.1457	0.0781	0.0565	0.0306	0.0189	0.0146	
1000	0.2082	0.1585	0.0853	0.0551	0.0262	0.0203	0.0171	
2500	0.2102	0.1877	0.0973	0.0609	0.0307	0.0203	0.0113	
5000	0.2339	0.2094	0.1071	0.0652	0.0313	0.0219	0.0159	
10700	0.2676	0.2524	0.1273	0.0751	0.0354	0.0217	0.0215	
25000	0.3073	0.2423	0.1578	0.0872	0.0431	0.0258	0.0147	
56036	14.5401	0.3446	0.1810	0.1002	0.0417	0.0288	0.0203	
Reps		Position 3						
0	0.1409	0.0892	0.0541	0.0411	0.0223	0.0152	0.0142	
500	0.1324	0.1265	0.0729	0.0497	0.0255	0.0192	0.0122	
1000	0.1516	0.1423	0.0758	0.0496	0.0240	0.0184	0.0139	
2500	0.0311	0.1653	0.0857	0.0537	0.0273	0.0170	0.1061	
5000	0.1901	0.1825	0.0946	0.0564	0.0282	0.0190	0.0037	
10700	0.2264	0.2199	0.1109	0.0650	0.0302	0.0210	0.0143	
25000	0.3093	0.2694	0.1351	0.0746	0.0342	0.0228	0.0168	
56036	8.7337	0.2922	0.1609	0.0839	0.0356	0.0246	-0.0046	

Table E-4-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C3)

702C3		Longitudinal Displacement (mm)						
Depth (mm)		152	292	457	610	762	902	1060
Reps		Position 1						
0	-0.0154	-0.0165	-0.0201	-0.0135	-0.0122	-0.0164	-0.0165	
500	-0.0144	-0.0193	-0.0245	-0.0152	-0.0139	-0.0134	-0.0138	
1000	-0.0245	-0.0311	-0.0312	-0.0203	-0.0158	-0.0164	-0.0153	
2500	-0.0233	-0.0314	-0.0330	-0.0202	-0.0168	-0.0153	-0.0190	
5000	-0.0506	-0.0431	-0.0430	-0.0223	-0.0149	-0.0171	-0.0184	
10700	-0.0370	-0.0374	-0.0425	-0.0252	-0.0177	-0.0170	-0.0125	
25000	0.0188	-0.0433	-0.0451	-0.0260	-0.0193	-0.0190	-0.0175	
56036	-0.8043	-0.0386	-0.0460	-0.0267	-0.0186	-0.0180	-0.0042	
Reps		Position 2						
0	-0.0134	-0.0146	-0.0147	-0.0095	-0.0056	-0.0099	-0.0726	
500	-0.0164	-0.0208	-0.0247	-0.0118	-0.0058	-0.0074	-0.0068	
1000	-0.0232	-0.0393	-0.0312	-0.0163	-0.0102	-0.0086	-0.0051	
2500	-0.0201	-0.0449	-0.0339	-0.0160	-0.0080	-0.0096	-0.0112	
5000	-0.0455	-0.0517	-0.0413	-0.0185	-0.0116	-0.0091	-0.0062	
10700	-0.0433	-0.0524	-0.0449	-0.0215	-0.0113	-0.0101	0.0007	
25000	-0.1128	-0.0405	-0.0460	-0.0235	-0.0117	-0.0099	-0.0135	
56036	-93.4906	-0.0638	-0.0527	-0.0264	-0.0142	-0.0098	-0.0018	
Reps		Position 3						
0	-0.0118	-0.0138	-0.0108	-0.0075	-0.0039	-0.0096	-0.0111	
500	-0.0104	-0.0166	-0.0140	-0.0096	-0.0065	-0.0059	-0.0062	
1000	-0.0160	-0.0335	-0.0229	-0.0132	-0.0076	-0.0067	-0.0053	
2500	-0.2118	-0.0376	-0.0265	-0.0149	-0.0085	-0.0077	0.0109	
5000	-0.0288	-0.0425	-0.0301	-0.0157	-0.0096	-0.0072	-0.0430	
10700	-0.0381	-0.0444	-0.0319	-0.0181	-0.0078	-0.0079	-0.0080	
25000	-0.0388	-0.0511	-0.0342	-0.0211	-0.0102	-0.0091	-0.0098	
56036	-136.1025	-0.0469	-0.0364	-0.0199	-0.0102	-0.0086	-0.0503	

Table E-4-5. Maximum peak transverse displacements in subgrade (TS702C3)

702C3		Transverse Displacement (mm)					
Depth (mm)	152	292	457	610	762	902	1060
Reps	Position 1						
0	0.1122	0.0072	0.0171	0.0108	0.0026	0.0065	0.2366
500	-0.0724	0.0329	0.0269	0.0173	0.0080	0.0097	4.4523
1000	0.1173	0.0355	0.0280	0.0203	0.0080	0.0098	4.5956
2500	10.2540	0.0594	0.0349	0.0198	0.0105	0.0099	7.5338
5000	26.8405	0.0628	0.0387	0.0214	0.0106	0.0120	4.9523
10700	9.9297	0.0760	0.0447	0.0236	0.0112	0.0132	3.2292
25000	10.6302	0.0907	0.0510	0.0285	0.0085	0.0137	18.8738
56036	0.0937	0.0841	0.0468	0.0187	0.0077	0.0138	11.0339
Reps	Position 2						
0	1.0258	0.0637	0.0513	0.0353	0.0105	0.0122	0.3203
500	178.0668	0.0997	0.0635	0.0432	0.0168	0.0159	4.1267
1000	36.9308	0.1008	0.0668	0.0475	0.0157	0.0176	6.7016
2500	15.3872	0.1186	0.0792	0.0502	0.0192	0.0164	7.5691
5000	106.3874	0.1300	0.0840	0.0566	0.0177	0.0194	6.7626
10700	56.5575	0.1495	0.0963	0.0568	0.0186	0.0186	5.3476
25000	13.7206	0.1493	0.1061	0.0746	0.0211	0.0234	29.1909
56036	34.1929	0.2020	0.1176	0.0527	0.0217	0.0228	10.1040
Reps	Position 3						
0	0.2293	0.0827	0.0550	0.0372	0.0096	0.0118	0.5214
500	46.4119	0.1105	0.0689	0.0516	0.0154	0.0162	3.9814
1000	48.3731	0.1267	0.0752	0.0535	0.0170	0.0174	6.6637
2500	14.3223	0.1493	0.0848	0.0595	0.0198	0.0168	3.7337
5000	83.7305	0.1500	0.0921	0.0693	0.0205	0.0194	8.5551
10700	13.8716	0.1741	0.1037	0.0694	0.0214	0.0192	5.5255
25000	136.4215	0.2075	0.1212	0.0892	0.0251	0.0208	19.8401
56036	60.1835	0.2092	0.1326	0.0684	0.0239	0.0230	7.8630

Table E-5-1. Maximum peak vertical displacements in subgrade (TS702C4)

702C4		Vertical Displacement (mm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	-0.1390	-0.1135	-0.0997	-0.0722	-0.0262	-0.0249	-0.0244	
500	-0.1564	-0.1366	-0.1162	-0.0798	-0.0275	-0.0266	-0.0250	
1000	-0.1659	-0.1504	-0.1250	-0.0870	-0.0299	-0.0285	-0.0265	
2500	0.7479	-0.1676	-0.1371	-0.0950	-0.0310	-0.0296	-0.0288	
5000	-0.2154	-0.1917	-0.1534	-0.1057	-0.0338	-0.0325	-0.0297	
10000	-0.2501	-0.2226	-0.1727	-0.1158	-0.0367	-0.0343	-0.0307	
25000	-0.2786	-0.2623	-0.1991	-0.1322	-0.0401	-0.0367	-0.0336	
50000	-0.3004	-0.2926	-0.2221	-0.1451	-0.0443	-0.0395	-0.0370	
79746	-0.3207	-0.3213	-0.2426	-0.1588	-0.0475	-0.0428	-0.0373	
158900	-0.3388	-0.3521	-0.2713	-0.1781	-0.0515	-0.0468	-0.0415	
Reps		Position 2						
0	-0.1761	-0.1707	-0.1325	-0.0926	-0.0328	-0.0284	-0.0305	
500	-0.2112	-0.2107	-0.1604	-0.1107	-0.0367	-0.0333	-0.0320	
1000	-0.2257	-0.2294	-0.1721	-0.1168	-0.0383	-0.0337	-0.0339	
2500	-0.2492	-0.2555	-0.1901	-0.1285	-0.0413	-0.0362	-0.0366	
5000	-0.2834	-0.2917	-0.2138	-0.1447	-0.0450	-0.0395	-0.0382	
10000	-0.3196	-0.3349	-0.2394	-0.1588	-0.0486	-0.0426	-0.0419	
25000	-0.3690	-0.3948	-0.2734	-0.1784	-0.0540	-0.0454	-0.0446	
50000	-0.4063	-0.4431	-0.3119	-0.2037	-0.0595	-0.0511	-0.0485	
79746	-0.4216	-0.4726	-0.3319	-0.2163	-0.0636	-0.0526	-0.0494	
158900	-0.4543	-0.5234	-0.3728	-0.2439	-0.0696	-0.0578	-0.0521	
Reps		Position 3						
0	-0.1480	-0.1441	-0.1026	-0.0768	-0.0279	-0.0231	-0.0275	
500	-0.1849	-0.1953	-0.1361	-0.0965	-0.0330	-0.0277	-0.0293	
1000	-0.2028	-0.2148	-0.1481	-0.1033	-0.0350	-0.0288	-0.0321	
2500	-0.2178	-0.2335	-0.1590	-0.1110	-0.0364	-0.0302	-0.0322	
5000	-0.1987	-0.2652	-0.1751	-0.1211	-0.0393	-0.0323	-0.0351	
10000	-0.2920	-0.3105	-0.2047	-0.1378	-0.0433	-0.0358	-0.0385	
25000	-0.3472	-0.3602	-0.2285	-0.1511	-0.0467	-0.0387	-0.0396	
50000	-0.3669	-0.4161	-0.2639	-0.1727	-0.0524	-0.0422	-0.0431	
79746	-0.3825	-0.4427	-0.2817	-0.1853	-0.0556	-0.0443	-0.0453	
158900	-0.4067	-0.4888	-0.3160	-0.2094	-0.0597	-0.0485	-0.0473	

Table E-5-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C4)

702C4		Longitudinal Displacement (mm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	-0.0270	-0.0332	-0.0193	-0.0144	-0.0124	-0.0142	-0.0122	
500	-0.0276	-0.0293	-0.0173	-0.0142	-0.0132	-0.0139	-0.0128	
1000	-0.0284	-0.0311	-0.0179	-0.0153	-0.0137	-0.0139	-0.0136	
2500	-0.0354	-0.0340	-0.0198	-0.0151	-0.0133	-0.0132	-0.0136	
5000	-0.0334	-0.0414	-0.0218	-0.0156	-0.0132	-0.0135	-0.0130	
10000	-0.0397	-0.0474	-0.0251	-0.0161	-0.0123	-0.0135	-0.0128	
25000	-0.0497	-0.0603	-0.0285	-0.0180	-0.0150	-0.0149	-0.0133	
50000	-0.0612	-0.0753	-0.0359	-0.0186	-0.0149	-0.0142	-0.0138	
79746	-0.0450	-0.0717	-0.0341	-0.0209	-0.0147	-0.0142	-0.0132	
158900	-0.0514	-0.0765	-0.0407	-0.0200	-0.0130	-0.0136	-0.0140	
Reps		Position 2						
0	-0.0370	-0.0298	-0.0132	-0.0065	-0.0042	-0.0045	-0.0039	
500	-0.0417	-0.0323	-0.0146	-0.0070	-0.0050	-0.0039	-0.0037	
1000	-0.0423	-0.0347	-0.0156	-0.0090	-0.0047	-0.0037	-0.0041	
2500	-0.0456	-0.0412	-0.0174	-0.0095	-0.0054	-0.0045	-0.0044	
5000	-0.0521	-0.0476	-0.0219	-0.0103	-0.0053	-0.0052	-0.0043	
10000	-0.0580	-0.0568	-0.0266	-0.0111	-0.0061	-0.0047	-0.0045	
25000	-0.0679	-0.0708	-0.0316	-0.0136	-0.0069	-0.0059	-0.0045	
50000	-0.0769	-0.0852	-0.0426	-0.0156	-0.0064	-0.0078	-0.0047	
79746	-0.0788	-0.0940	-0.0440	-0.0191	-0.0085	-0.0054	-0.0056	
158900	-0.1346	-0.1023	-0.0494	-0.0220	-0.0071	-0.0061	-0.0057	
Reps		Position 3						
0	-0.0327	-0.0222	-0.0117	-0.0057	-0.0036	-0.0042	-0.0030	
500	-0.0352	-0.0285	-0.0125	-0.0067	-0.0045	-0.0036	-0.0043	
1000	-0.0359	-0.0301	-0.0138	-0.0072	-0.0052	-0.0041	-0.0035	
2500	-0.0471	-0.0342	-0.0172	-0.0077	-0.0051	-0.0048	-0.0036	
5000	-0.0384	-0.0427	-0.0184	-0.0089	-0.0050	-0.0034	-0.0034	
10000	-0.0541	-0.0471	-0.0220	-0.0107	-0.0058	-0.0047	-0.0048	
25000	-0.0612	-0.0599	-0.0270	-0.0134	-0.0051	-0.0058	-0.0039	
50000	-0.0948	-0.0740	-0.0345	-0.0158	-0.0075	-0.0067	-0.0064	
79746	-0.0687	-0.0788	-0.0381	-0.0173	-0.0076	-0.0045	-0.0050	
158900	-0.1162	-0.0877	-0.0450	-0.0198	-0.0076	-0.0050	-0.0053	

Table E-5-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C4)

702C4		Longitudinal Displacement (mm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	0.0756	0.0374	0.0227	0.0178	0.0194	0.0190	0.0199	
500	0.0715	0.0445	0.0274	0.0225	0.0196	0.0196	0.0199	
1000	0.0739	0.0512	0.0295	0.0223	0.0171	0.0189	0.0194	
2500	0.0774	0.0583	0.0332	0.0245	0.0179	0.0193	0.0189	
5000	0.0984	0.0742	0.0408	0.0254	0.0182	0.0192	0.0193	
10000	0.0905	0.0881	0.0474	0.0283	0.0184	0.0187	0.0189	
25000	0.1323	0.1154	0.0595	0.0322	0.0178	0.0182	0.0190	
50000	0.1488	0.1316	0.0731	0.0400	0.0171	0.0176	0.0181	
79746	0.1905	0.1483	0.0804	0.0417	0.0201	0.0184	0.0186	
158900	0.2204	0.1876	0.1057	0.0618	0.0289	0.0225	0.0192	
Reps		Position 2						
0	0.1205	0.0547	0.0334	0.0222	0.0121	0.0094	0.0057	
500	0.1145	0.0688	0.0419	0.0269	0.0127	0.0117	0.0059	
1000	0.1170	0.0788	0.0449	0.0280	0.0131	0.0107	0.0062	
2500	0.1315	0.0908	0.0517	0.0324	0.0139	0.0133	0.0067	
5000	0.1562	0.1115	0.0607	0.0368	0.0164	0.0133	0.0073	
10000	0.1666	0.1311	0.0682	0.0426	0.0172	0.0145	0.0074	
25000	0.2017	0.1620	0.0851	0.0468	0.0193	0.0153	0.0079	
50000	0.2424	0.1944	0.1042	0.0568	0.0232	0.0188	0.0097	
79746	0.2664	0.2149	0.1180	0.0623	0.0244	0.0186	0.0100	
158900	0.3254	0.2631	0.1452	0.0755	0.0289	0.0220	0.0105	
Reps		Position 3						
0	0.1112	0.0453	0.0280	0.0205	0.0099	0.0088	0.0051	
500	0.0898	0.0597	0.0360	0.0242	0.0107	0.0106	0.0059	
1000	0.0870	0.0696	0.0399	0.0263	0.0121	0.0114	0.0068	
2500	0.1141	0.0797	0.0452	0.0279	0.0130	0.0116	0.0064	
5000	0.0881	0.0919	0.0514	0.0317	0.0149	0.0124	0.0071	
10000	0.1310	0.1125	0.0596	0.0351	0.0151	0.0134	0.0071	
25000	0.1967	0.1353	0.0708	0.0401	0.0174	0.0135	0.0075	
50000	0.1950	0.1685	0.0905	0.0489	0.0208	0.0149	0.0091	
79746	0.2208	0.1870	0.1000	0.0534	0.0208	0.0175	0.0090	
158900	0.2779	0.2286	0.1224	0.0651	0.0249	0.0185	0.0096	

Table E-5-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C4)

702C4		Longitudinal Displacement (mm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	-0.0161	-0.0173	-0.0160	-0.0144	-0.0124	-0.0142	-0.0122	
500	-0.0140	-0.0216	-0.0173	-0.0142	-0.0132	-0.0139	-0.0128	
1000	-0.0140	-0.0214	-0.0172	-0.0153	-0.0137	-0.0139	-0.0136	
2500	-0.0135	-0.0231	-0.0198	-0.0151	-0.0133	-0.0132	-0.0136	
5000	-0.0192	-0.0282	-0.0218	-0.0156	-0.0132	-0.0135	-0.0130	
10000	-0.0228	-0.0302	-0.0251	-0.0161	-0.0123	-0.0135	-0.0128	
25000	-0.0237	-0.0357	-0.0263	-0.0177	-0.0150	-0.0149	-0.0133	
50000	-0.0331	-0.0393	-0.0283	-0.0183	-0.0149	-0.0142	-0.0138	
79746	-0.0237	-0.0414	-0.0306	-0.0195	-0.0147	-0.0142	-0.0132	
158900	-0.0256	-0.0362	-0.0307	-0.0186	-0.0130	-0.0136	-0.0140	
Reps		Position 2						
0	-0.0121	-0.0167	-0.0105	-0.0065	-0.0042	-0.0037	-0.0039	
500	-0.0113	-0.0224	-0.0143	-0.0070	-0.0050	-0.0039	-0.0037	
1000	-0.0144	-0.0232	-0.0148	-0.0090	-0.0047	-0.0037	-0.0041	
2500	-0.0166	-0.0274	-0.0165	-0.0095	-0.0054	-0.0045	-0.0044	
5000	-0.0218	-0.0323	-0.0211	-0.0103	-0.0047	-0.0052	-0.0043	
10000	-0.0212	-0.0354	-0.0237	-0.0111	-0.0061	-0.0047	-0.0045	
25000	-0.0291	-0.0431	-0.0276	-0.0129	-0.0069	-0.0059	-0.0045	
50000	-0.0265	-0.0491	-0.0343	-0.0146	-0.0064	-0.0078	-0.0047	
79746	-0.0280	-0.0513	-0.0332	-0.0174	-0.0085	-0.0054	-0.0056	
158900	-0.0686	-0.0467	-0.0353	-0.0188	-0.0071	-0.0057	-0.0057	
Reps		Position 3						
0	-0.0115	-0.0146	-0.0080	-0.0057	-0.0036	-0.0042	-0.0030	
500	-0.0091	-0.0184	-0.0118	-0.0063	-0.0042	-0.0036	-0.0043	
1000	-0.0133	-0.0192	-0.0121	-0.0071	-0.0052	-0.0041	-0.0035	
2500	-0.0183	-0.0217	-0.0141	-0.0077	-0.0051	-0.0048	-0.0036	
5000	-0.0141	-0.0261	-0.0148	-0.0082	-0.0050	-0.0034	-0.0034	
10000	-0.0207	-0.0301	-0.0179	-0.0107	-0.0058	-0.0047	-0.0048	
25000	-0.0230	-0.0370	-0.0233	-0.0117	-0.0051	-0.0058	-0.0039	
50000	-0.0424	-0.0368	-0.0271	-0.0122	-0.0053	-0.0067	-0.0064	
79746	-0.0214	-0.0415	-0.0269	-0.0133	-0.0076	-0.0045	-0.0050	
158900	-0.0634	-0.0392	-0.0308	-0.0149	-0.0076	-0.0049	-0.0053	

Table E-5-5. Maximum peak transverse displacements in subgrade (TS702C4)

702C4		Transverse Displacement (mm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	4.44728	0.02147	0.01715	0.01426	0.00972	0.00746	0.00800	
500	42.33418	0.02603	0.01795	0.01477	0.00894	0.00665	0.00550	
1000	5.33031	0.02581	0.01957	0.01611	0.00924	0.00641	0.00554	
2500	65.26943	0.02557	0.01918	0.01603	0.00990	0.00677	0.00685	
5000	38.07967	0.03275	0.02224	0.01901	0.01077	0.00689	0.00639	
10000	81.93513	0.03915	0.02552	0.01952	0.01029	0.00652	0.00673	
25000	85.14554	0.04816	0.02861	0.02178	0.01166	0.00682	0.00707	
50000	4.64283	0.06240	0.03432	0.02390	0.01205	0.00755	0.00759	
79746	5.20046	0.07362	0.03873	0.02639	0.01218	0.00831	0.00889	
158900	7.11750	0.07744	0.04191	0.02843	0.01385	0.00821	0.00915	
Reps		Position 2						
0	15.2838	0.0545	0.0323	0.0238	0.0105	0.0066	0.0081	
500	7.2389	0.0549	0.0362	0.0257	0.0126	0.0086	0.0066	
1000	7.3824	0.0572	0.0387	0.0269	0.0122	0.0070	0.0066	
2500	7.8847	0.0634	0.0407	0.0305	0.0123	0.0071	0.0077	
5000	39.6298	0.0694	0.0440	0.0323	0.0136	0.0090	0.0084	
10000	7.3417	0.0813	0.0467	0.0355	0.0139	0.0099	0.0099	
25000	66.4849	0.0991	0.0558	0.0383	0.0156	0.0111	0.0102	
50000	53.5820	0.1206	0.0643	0.0471	0.0181	0.0105	0.0083	
79746	7.8853	0.1320	0.0735	0.0487	0.0170	0.0115	0.0108	
158900	84.2084	0.1442	0.0826	0.0532	0.0204	0.0140	0.0118	
Reps		Position 3						
0	6.3073	0.0423	0.0287	0.0214	0.0101	0.0081	0.0063	
500	7.6548	0.0537	0.0354	0.0258	0.0099	0.0081	0.0069	
1000	7.7236	0.0607	0.0373	0.0273	0.0105	0.0096	0.0066	
2500	7.8705	0.0677	0.0403	0.0292	0.0130	0.0090	0.0091	
5000	119.6916	0.0738	0.0441	0.0301	0.0113	0.0097	0.0067	
10000	30.1339	0.0920	0.0508	0.0363	0.0132	0.0099	0.0095	
25000	22.6270	0.1111	0.0578	0.0386	0.0146	0.0100	0.0093	
50000	91.3449	0.1332	0.0681	0.0466	0.0169	0.0100	0.0128	
79746	21.2585	0.1484	0.0770	0.0480	0.0149	0.0115	0.0108	
158900	69.2995	0.1653	0.0896	0.0536	0.0166	0.0138	0.0111	

Table E-6-1. Maximum peak vertical displacements in subgrade (TS702C5)

702C5		Vertical Displacement (mm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	-0.1608	-0.1468	-0.1140	-0.0696	-0.0312	-0.0209	-0.0213	
500	-0.1751	-0.1736	-0.1284	-0.0749	-0.0335	-0.0233	-0.0220	
1000	-0.1754	-0.1792	-0.1282	-0.0739	-0.0335	-0.0218	-0.0205	
2500	-0.2160	-0.2262	-0.1576	-0.0925	-0.0407	-0.0254	-0.0270	
5000	-0.2298	-0.2444	-0.1686	-0.0968	-0.0407	-0.0261	-0.0251	
10000	-0.2531	-0.2751	-0.1852	-0.1039	-0.0446	-0.0281	-0.0280	
25000	-0.2653	-0.2988	-0.2085	-0.1150	-0.0473	-0.0301	-0.0292	
50000	-0.2750	-0.3206	-0.2262	-0.1232	-0.0494	-0.0299	-0.0287	
105800	-0.2707	-0.3195	-0.2453	-0.1226	-0.0606	-3.9923	-56.3046	
230048	-0.2062	-0.3038	-0.2468	-0.1290	-0.0587	-0.7413	-1.2497	
425313	-0.2027	-0.2135	-0.1708	-0.0906	-0.0439	-0.7890	-13.7655	
761211	-0.2484	-0.2904	-0.2360	-0.1258	-0.0586	-0.9562	-11.9362	
1037634	-0.2268	-0.2646	-0.2224	-0.1193	-0.0574	-0.8833	-7.8125	
Reps		Position 2						
0	-0.2024	-0.2073	-0.1551	-0.0867	-0.0407	-0.0259	-0.0255	
500	-0.2156	-0.2363	-0.1668	-0.0926	-0.0412	-0.0278	-0.0236	
1000	-0.2492	-0.2798	-0.1994	-0.1081	-0.0496	-0.0324	-0.0280	
2500	-0.2597	-0.3032	-0.2105	-0.1152	-0.0527	-0.0326	-0.0313	
5000	-0.2923	-0.3298	-0.2309	-0.1229	-0.0555	-0.0340	-0.0317	
10000	-0.3167	-0.3663	-0.2514	-0.1305	-0.0584	-0.0358	-0.0337	
25000	-0.3422	-0.4150	-0.2844	-0.1466	-0.0624	-0.0382	-0.0348	
50000	-0.3787	-0.4357	-0.3041	-0.1558	-0.0650	-0.0401	-0.0360	
105800	-0.3744	-0.4301	-0.3302	-0.1687	-0.0797	-2.7015	-27.5710	
230048	-0.3576	-0.4107	-0.3352	-0.1714	-0.0784	-0.7917	-0.8634	
425313	-0.2777	-0.2744	-0.2247	-0.1171	-0.0535	-1.2115	-11.7738	
761211	-0.3402	-0.3762	-0.2694	-0.1644	-0.0756	-0.9225	-13.6411	
1037634	-0.3192	-0.3667	-0.3115	-0.1641	-0.0759	-0.8606	-7.5374	
Reps		Position 3						
0	-0.1679	-0.1763	-0.1307	-0.0696	-0.0349	-0.0230	-0.0208	
500	-0.1664	-0.1910	-0.1379	-0.0723	-0.0354	-0.0250	-0.0224	
1000	-0.1970	-0.2304	-0.1602	-0.0831	-0.0407	-0.0260	-0.0229	
2500	-0.2049	-0.2512	-0.1758	-0.0915	-0.0459	-0.0298	-0.0271	
5000	-0.2446	-0.2984	-0.2000	-0.1006	-0.0506	-0.0310	-0.0293	
10000	-0.2566	-0.3185	-0.2096	-0.1036	-0.0518	-0.0327	-0.0314	
25000	-0.2788	-0.3633	-0.2417	-0.1194	-0.0558	-0.0342	-0.0318	
50000	-0.2718	-0.3681	-0.2536	-0.1243	-0.0572	-0.0348	-0.0311	
105800	-0.3711	-0.3568	-0.2776	-0.1381	-0.0701	-1.4977	-13.6373	
230048	-0.3619	-0.3458	-0.2751	-0.1399	-0.0644	-0.7199	-1.2600	
425313	-0.2611	-0.2133	-0.1749	-0.0901	-0.0462	-0.8694	-21.6181	
761211	-0.3418	-0.3263	-0.2692	-0.1344	-0.0647	-1.0147	-23.2280	
1037634	-0.3190	-0.3164	-0.2651	-0.1372	-0.0655	-1.0560	-14.2833	

Table E-6-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C5)

702C5		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	-0.0169	-0.0193	-0.0175	-0.0126	-0.0121	-0.0128	-36.8767	
500	-0.0239	-0.0241	-0.0185	-0.0132	-0.0128	-0.0130	-27.0756	
1000	-0.0225	-0.0242	-0.0195	-0.0150	-0.0132	-0.0132	-54.5552	
2500	-0.0390	-0.0512	-0.0300	-0.0156	-0.0141	-0.0127	-54.6568	
5000	-0.0428	-0.0570	-0.0304	-0.0179	-0.0130	-0.0130	-34.8120	
10000	-0.0425	-0.0597	-0.0316	-0.0180	-0.0118	-0.0136	-24.8559	
25000	-0.0603	-0.0734	-0.0453	-0.0238	-0.0141	-0.0121	-14.5489	
50000	-0.0643	-0.0811	-0.0495	-0.0238	-0.0140	-0.0133	-12.3050	
105800	-3.9550	-0.0811	-0.0556	-0.0315	-0.0145	-0.0140	-9.9839	
230048	-0.8889	-0.0696	-0.0507	-0.0278	-0.0199	-0.0162	-3.5219	
425313	-0.5835	-0.0493	-0.0402	-0.0266	-0.0185	-0.0167	-2.0031	
761211	-2.1997	-0.0661	-0.0586	-0.0305	-0.0175	-0.0165	-3.4551	
1037634	-1.6664	-0.0655	-0.0460	-0.0273	-0.0196	-0.0178	-4.0703	
Reps		Position 2						
0	-0.0201	-0.0261	-0.0129	-0.0058	-0.0018	-0.0028	-53.2145	
500	-0.0253	-0.0296	-0.0167	-0.0053	-0.0033	-0.0036	-35.3099	
1000	-0.0330	-0.0369	-0.0193	-0.0071	-0.0042	-0.0034	-54.0713	
2500	-0.0413	-0.0527	-0.0294	-0.0130	-0.0056	-0.0035	-29.5350	
5000	-0.0518	-0.0595	-0.0358	-0.0143	-0.0063	-0.0035	-61.0417	
10000	-0.0504	-0.0645	-0.0366	-0.0125	-0.0051	-0.0045	-34.2538	
25000	-0.0663	-0.0824	-0.0507	-0.0201	-0.0078	-0.0043	-24.5548	
50000	-0.1708	-0.0921	-0.0547	-0.0194	-0.0084	-0.0049	-17.0838	
105800	-2.2064	-0.0944	-0.0593	-0.0255	-0.0086	-0.0072	-13.7584	
230048	-0.4658	-0.0909	-0.0647	-0.0259	-0.0097	-0.0046	-4.5575	
425313	-0.5667	-0.0602	-0.0398	-0.0190	-0.0101	-0.0050	-2.8183	
761211	-1.1812	-0.0869	-0.0406	-0.0256	-0.0090	-0.0062	-3.9076	
1037634	-1.5925	-0.0903	-0.0600	-0.0237	-0.0090	-0.0054	-2.4061	
Reps		Position 3						
0	-0.0149	-0.0200	-0.0106	-0.0032	-0.0042	-0.0017	-67.7357	
500	-0.0192	-0.0234	-0.0109	-0.0056	-0.0038	-0.0024	-29.3812	
1000	-0.0247	-0.0275	-0.0132	-0.0052	-0.0044	-0.0024	-78.2740	
2500	-0.0319	-0.0412	-0.0250	-0.0109	-0.0062	-0.0045	-43.4447	
5000	-0.0352	-0.0525	-0.0296	-0.0113	-0.0062	-0.0041	-51.2512	
10000	-0.0350	-0.0539	-0.0302	-0.0112	-0.0066	-0.0038	-19.1967	
25000	-0.0460	-0.0700	-0.0404	-0.0149	-0.0071	-0.0054	-31.0998	
50000	-0.0513	-0.0744	-0.0442	-0.0173	-0.0073	-0.0052	-9.1196	
105800	-4.2879	-0.0750	-0.0506	-0.0193	-0.0075	-0.0063	-7.7808	
230048	-0.5606	-0.0743	-0.0491	-0.0188	-0.0101	-0.0046	-2.9566	
425313	-0.4058	-0.0432	-0.0313	-0.0144	-0.0082	-0.0065	-2.3235	
761211	-0.6790	-0.0738	-0.0501	-0.0192	-0.0100	-0.0055	-4.3133	
1037634	-0.3157	-0.0751	-0.0485	-0.0185	-0.0087	-0.0054	-5.0576	

Table E-6-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C5)

702C5		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	0.0847	0.0716	0.0555	0.0371	0.0269	0.0245	44.7821	
500	0.0850	0.0838	0.0605	0.0405	0.0274	0.0245	25.0074	
1000	0.0876	0.0889	0.0621	0.0400	0.0265	0.0246	46.3467	
2500	0.1072	0.0976	0.0549	0.0315	0.0183	0.0189	61.1770	
5000	0.1266	0.1109	0.0630	0.0309	0.0192	0.0184	42.1985	
10000	0.1455	0.1273	0.0711	0.0325	0.0209	0.0181	19.6681	
25000	0.1617	0.1479	0.0829	0.0414	0.0176	0.0170	16.3036	
50000	0.1887	0.1635	0.0956	0.0447	0.0184	0.0172	22.5913	
105800	14.0598	0.1630	0.1037	0.0441	0.0191	0.0175	8.5413	
230048	19.2037	0.1521	0.1015	0.0466	0.0193	0.0203	1.7077	
425313	12.2920	0.0975	0.0662	0.0270	0.0188	0.0186	1.9661	
761211	17.1738	0.1401	0.0914	0.0390	0.0187	0.0192	3.0711	
1037634	16.2682	0.1269	0.0858	0.0397	0.0187	0.0200	2.8702	
Reps		Position 2						
0	0.1187	0.0849	0.0604	0.0334	0.0184	0.0119	60.5336	
500	0.1170	0.1022	0.0662	0.0374	0.0192	0.0120	40.2977	
1000	0.1417	0.1255	0.0834	0.0415	0.0210	0.0142	90.6689	
2500	0.1523	0.1382	0.0804	0.0421	0.0201	0.0126	47.3429	
5000	0.1823	0.1531	0.0888	0.0422	0.0207	0.0134	55.4117	
10000	0.2001	0.1727	0.0981	0.0498	0.0222	0.0123	47.0265	
25000	0.2386	0.2091	0.1150	0.0547	0.0236	0.0133	24.1835	
50000	0.2351	0.2215	0.1286	0.0630	0.0249	0.0157	11.8870	
105800	23.0346	0.2225	0.1372	0.0626	0.0274	0.0157	11.8488	
230048	36.3737	0.2142	0.1340	0.0656	0.0278	0.0174	2.0857	
425313	16.3450	0.1275	0.0862	0.0377	0.0169	0.0110	2.5280	
761211	23.5838	0.1918	0.0970	0.0604	0.0273	0.0158	4.5228	
1037634	21.9143	0.1836	0.1197	0.0575	0.0295	0.0165	6.5826	
Reps		Position 3						
0	0.1112	0.0730	0.0496	0.0289	0.0149	0.0111	79.2772	
500	0.1019	0.0799	0.0551	0.0295	0.0158	0.0100	52.2558	
1000	0.1261	0.1009	0.0648	0.0350	0.0171	0.0123	118.7705	
2500	0.1340	0.1121	0.0654	0.0351	0.0170	0.0120	75.2093	
5000	0.1670	0.1360	0.0753	0.0380	0.0196	0.0132	77.8047	
10000	0.1711	0.1468	0.0790	0.0398	0.0189	0.0126	33.1894	
25000	0.2064	0.1758	0.0979	0.0465	0.0199	0.0132	18.2061	
50000	0.2326	0.1811	0.1043	0.0478	0.0215	0.0123	7.7591	
105800	14.5727	0.1785	0.1137	0.0526	0.0218	0.0140	6.9395	
230048	31.7113	0.1748	0.1106	0.0543	0.0219	0.0131	4.5914	
425313	13.8892	0.0980	0.0668	0.0296	0.0150	0.0070	2.9043	
761211	20.6614	0.1671	0.1092	0.0491	0.0234	0.0134	2.4992	
1037634	19.4195	0.1559	0.1017	0.0485	0.0243	0.0139	3.4920	

Table E-6-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C5)

702C5		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	-0.0094	-0.0080	-0.0087	-0.0101	-0.0110	-0.0127	-36.8767	
500	-0.0059	-0.0063	-0.0059	-0.0070	-0.0108	-0.0115	-25.4558	
1000	-0.0069	-0.0065	-0.0068	-0.0099	-0.0102	-0.0113	-41.3326	
2500	-0.0188	-0.0244	-0.0229	-0.0147	-0.0141	-0.0127	-54.6568	
5000	-0.0224	-0.0254	-0.0229	-0.0147	-0.0130	-0.0130	-20.7439	
10000	-0.0235	-0.0276	-0.0257	-0.0171	-0.0118	-0.0136	-19.5953	
25000	-0.0282	-0.0310	-0.0311	-0.0176	-0.0141	-0.0121	-11.5300	
50000	-0.0294	-0.0340	-0.0332	-0.0188	-0.0140	-0.0133	-10.4831	
105800	-3.9550	-0.0322	-0.0371	-0.0203	-0.0145	-0.0140	-9.9839	
230048	-0.8384	-0.0279	-0.0367	-0.0206	-0.0161	-0.0149	-3.4256	
425313	-0.3511	-0.0282	-0.0349	-0.0210	-0.0172	-0.0147	-2.0031	
761211	-0.5698	-0.0287	-0.0368	-0.0222	-0.0154	-0.0143	-3.4551	
1037634	-0.2360	-0.0292	-0.0380	-0.0219	-0.0161	-0.0138	-2.4227	
Reps		Position 2						
0	0.0020	-0.0013	-0.0015	-0.0016	-0.0009	-0.0023	-53.2145	
500	0.0030	-0.0008	0.0007	-0.0010	-0.0018	-0.0036	-30.6609	
1000	0.0051	0.0012	0.0005	-0.0026	-0.0017	-0.0024	-54.0713	
2500	-0.0226	-0.0269	-0.0232	-0.0111	-0.0056	-0.0035	-29.5350	
5000	-0.0235	-0.0291	-0.0256	-0.0120	-0.0063	-0.0035	-61.0417	
10000	-0.0257	-0.0327	-0.0282	-0.0096	-0.0051	-0.0045	-34.2538	
25000	-0.0390	-0.0381	-0.0381	-0.0143	-0.0078	-0.0043	-24.5548	
50000	-0.0615	-0.0411	-0.0383	-0.0133	-0.0084	-0.0049	-17.0838	
105800	-1.7288	-0.0440	-0.0419	-0.0205	-0.0086	-0.0072	-10.1134	
230048	-0.4658	-0.0312	-0.0451	-0.0192	-0.0097	-0.0046	-3.9940	
425313	-0.5667	-0.0327	-0.0381	-0.0190	-0.0101	-0.0050	-2.8183	
761211	-0.8623	-0.0351	-0.0406	-0.0183	-0.0090	-0.0062	-3.7692	
1037634	-0.4762	-0.0357	-0.0477	-0.0199	-0.0090	-0.0054	-2.4061	
Reps		Position 3						
0	0.0001	-0.0017	-0.0005	-0.0014	-0.0028	-0.0017	-67.7357	
500	0.0007	-0.0009	0.0002	-0.0021	-0.0025	-0.0020	-29.3812	
1000	0.0022	0.0004	-0.0010	-0.0012	-0.0018	-0.0016	-56.3397	
2500	-0.0178	-0.0228	-0.0213	-0.0100	-0.0062	-0.0045	-34.9380	
5000	-0.0226	-0.0240	-0.0234	-0.0091	-0.0062	-0.0041	-51.2512	
10000	-0.0252	-0.0257	-0.0251	-0.0108	-0.0066	-0.0038	-6.0151	
25000	-0.0337	-0.0340	-0.0333	-0.0129	-0.0071	-0.0054	-27.9908	
50000	-0.0321	-0.0313	-0.0328	-0.0141	-0.0073	-0.0052	-7.3319	
105800	-4.2879	-0.0325	-0.0393	-0.0174	-0.0075	-0.0063	-7.7808	
230048	-0.5606	-0.0263	-0.0370	-0.0165	-0.0101	-0.0046	-1.5010	
425313	-0.2539	-0.0273	-0.0313	-0.0144	-0.0082	-0.0065	-2.3235	
761211	-0.6790	-0.0271	-0.0373	-0.0165	-0.0100	-0.0055	-4.3133	
1037634	-0.2668	-0.0303	-0.0378	-0.0180	-0.0087	-0.0054	-4.8545	

Table E-6-5. Maximum peak transverse displacements in subgrade (TS702C5)

702C5		Transverse Displacement (mm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	1.8069	0.0304	0.0233	0.0142	0.0108	0.0074	0.0069	
500	2.1854	0.0390	0.0287	0.0170	0.0107	0.0074	0.0064	
1000	1.8902	0.0405	0.0287	0.0158	0.0109	0.0068	0.0050	
2500	2.2775	0.0575	0.0392	0.0223	0.0141	0.0088	0.0068	
5000	2.0724	0.0654	0.0420	0.0235	0.0147	0.0105	0.0069	
10000	1.6354	0.0771	0.0470	0.0256	0.0155	0.0110	0.0080	
25000	1.0468	0.0858	0.0529	0.0267	0.0150	0.0099	0.0095	
50000	1.1276	0.0976	0.0594	0.0295	0.0172	0.0107	0.0080	
105800	4.3965	0.1501	0.0994	0.0535	0.0243	0.0129	0.5157	
230048	4.8866	0.1475	0.0903	0.0561	0.0234	0.0141	1.4764	
425313	7.6102	0.0945	0.0641	0.0355	0.0203	0.0119	1.5595	
761211	7.8640	0.1322	0.0862	0.0579	0.0272	0.0123	1.4180	
1037634	7.4960	0.1269	0.0774	0.0516	0.0256	0.0135	1.2524	
Reps		Position 2						
0	2.6831	0.0482	0.0397	0.0222	0.0152	0.0073	0.0061	
500	3.0361	0.0608	0.0482	0.0243	0.0128	0.0098	0.0071	
1000	3.4621	0.0705	0.0543	0.0305	0.0164	0.0108	0.0053	
2500	3.0351	0.0823	0.0620	0.0345	0.0200	0.0113	0.0098	
5000	2.8242	0.0937	0.0671	0.0369	0.0208	0.0132	0.0082	
10000	2.4242	0.1066	0.0769	0.0386	0.0215	0.0137	0.0092	
25000	1.9956	0.1230	0.0840	0.0423	0.0217	0.0132	0.0093	
50000	1.8675	0.1340	0.0936	0.0465	0.0229	0.0147	0.0122	
105800	6.2110	0.2087	0.1362	0.0778	0.0279	0.0056	0.7436	
230048	9.6433	0.2287	0.1395	0.0807	0.0393	0.0187	1.1644	
425313	10.5329	0.1233	0.0820	0.0456	0.0239	0.0107	1.9777	
761211	11.3057	0.1895	0.1045	0.0816	0.0380	0.0208	1.5600	
1037634	11.2039	0.1827	0.1209	0.0762	0.0351	0.0191	2.4165	
Reps		Position 3						
0	2.7370	0.0509	0.0378	0.0223	0.0123	0.0089	0.0089	
500	3.0240	0.0577	0.0422	0.0216	0.0131	0.0092	0.0086	
1000	3.3606	0.0710	0.0493	0.0255	0.0153	0.0101	0.0053	
2500	3.5445	0.0853	0.0580	0.0304	0.0168	0.0129	0.0093	
5000	3.1153	0.1043	0.0649	0.0330	0.0193	0.0120	0.0100	
10000	2.5753	0.1120	0.0704	0.0322	0.0178	0.0134	0.0097	
25000	2.2915	0.1337	0.0808	0.0372	0.0195	0.0135	0.0092	
50000	2.4389	0.1373	0.0855	0.0389	0.0187	0.0142	0.0097	
105800	6.0467	0.2238	0.1352	0.0691	0.0366	0.0100	0.9478	
230048	8.5842	0.2268	0.1293	0.0748	0.0381	0.0151	1.7925	
425313	11.2595	0.1178	0.0816	0.0449	0.0246	0.0112	1.6394	
761211	10.2554	0.1919	0.1242	0.0779	0.0344	0.0220	2.1556	
1037634	9.5351	0.1984	0.1196	0.0689	0.0309	0.0205	2.0563	

Table E-7-1. Maximum peak vertical displacements in subgrade (TS702C6)

702C6		Vertical Displacement (mm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	-0.2194	-0.1519	-0.1168	-0.0849	-0.0613	-0.0416	-0.0357	
500	-0.2544	-0.2091	-0.1448	-0.1025	-0.0705	-0.0494	-0.0402	
1000	-0.2569	-0.2344	-0.1554	-0.1115	-0.0748	-0.0483	-0.0416	
2500	-0.2838	-0.2741	-0.1761	-0.1237	-0.0815	-0.0551	-0.0441	
5000	-0.3217	-0.3136	-0.1935	-0.1347	-0.0890	-0.0586	-0.0475	
10000	-0.3540	-0.3581	-0.2172	-0.1482	-0.0971	-0.0647	-0.0502	
25000	-0.3900	-0.4011	-0.2438	-0.1671	-0.1070	-0.0701	-0.0534	
51500	-0.4930	-0.4865	-0.2892	-0.1923	-0.1220	-0.0765	-0.0584	
169525	-0.2437	-0.4872	-0.3080	-0.2061	-0.1276	-0.0800	-0.0617	
Reps		Position 2						
0	-0.2724	-0.2281	-0.1586	-0.1096	-0.0789	-0.0541	-0.0450	
500	-0.3208	-0.3170	-0.2048	-0.1389	-0.0966	-0.0638	-0.0513	
1000	-0.3350	-0.3505	-0.2226	-0.1500	-0.1014	-0.0683	-0.0545	
2500	-0.3839	-0.4083	-0.2511	-0.1670	-0.1117	-0.0733	-0.0587	
5000	-0.4245	-0.4694	-0.2806	-0.1853	-0.1236	-0.0807	-0.0618	
10000	-0.4757	-0.5396	-0.3165	-0.2058	-0.1349	-0.0866	-0.0674	
25000	-0.5179	-0.6059	-0.3610	-0.2321	-0.1493	-0.0939	-0.0722	
51500	-0.6979	-0.7269	-0.4182	-0.2663	-0.1773	-0.1059	-0.0788	
169525	-0.2127	-0.7327	-0.4471	-0.2897	-0.1787	-0.1106	-0.0816	
Reps		Position 3						
0	-0.2278	-0.1979	-0.1310	-0.0842	-0.0656	-0.0451	-0.0395	
500	-0.2855	-0.2869	-0.1763	-0.1144	-0.0836	-0.0572	-0.0475	
1000	-0.3116	-0.3220	-0.1926	-0.1253	-0.0896	-0.0600	-0.0495	
2500	-0.3473	-0.3741	-0.2179	-0.1403	-0.0993	-0.0660	-0.0547	
5000	-0.3908	-0.4320	-0.2461	-0.1560	-0.1075	-0.0703	-0.0566	
10000	-0.4370	-0.4998	-0.2747	-0.1747	-0.1184	-0.0751	-0.0620	
25000	-0.4701	-0.5630	-0.3180	-0.1950	-0.1306	-0.0815	-0.0642	
51500	-0.6447	-0.6780	-0.3682	-0.2240	-0.1471	-0.0925	-0.0708	
169525	-0.2562	-0.6784	-0.3916	-0.2425	-0.1556	-0.0965	-0.0728	

Table E-7-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C6)

702C6		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	-0.0429	-0.0378	-0.0275	-0.0224	-0.0189	-0.0132	-0.0140	
500	-0.0210	-0.0426	-0.0277	-0.0244	-0.0183	-0.0158	-0.0225	
1000	0.0121	-0.0475	-0.0280	-0.0235	-0.0193	-0.0138	-0.0104	
2500	0.0045	-0.0542	-0.0311	-0.0247	-0.0180	-0.0182	-0.0338	
5000	-0.0308	-0.0624	-0.0350	-0.0246	-0.0203	-0.0151	-0.0115	
10000	-0.0526	-0.0739	-0.0418	-0.0285	-0.0221	-0.0156	-0.0146	
25000	-1.1321	-0.0867	-0.0480	-0.0301	-0.0252	-0.0172	-0.0159	
51500	-0.0901	-0.1080	-0.0596	-0.0339	-124.0387	-0.0187	-0.0198	
169525	-0.0867	-0.1182	-0.0683	-0.0371	-2.8813	-0.0203	-0.0193	
Reps		Position 2						
0	-0.0328	-0.0318	-0.0219	-0.0185	-0.0133	-0.0115	-0.0059	
500	0.0376	-0.0425	-0.0248	-0.0193	-0.0163	-0.0087	-0.0118	
1000	-0.0205	-0.0457	-0.0303	-0.0236	-0.0124	-0.0117	-0.0021	
2500	-0.0249	-0.0563	-0.0324	-0.0220	-0.0142	-0.0103	-0.0142	
5000	-0.0464	-0.0681	-0.0381	-0.0266	-0.0160	-0.0099	-0.0021	
10000	-0.0546	-0.0849	-0.0436	-0.0307	-0.0164	-0.0115	-0.0043	
25000	-0.0301	-0.1018	-0.0579	-0.0308	-0.0199	-0.0110	-0.0033	
51500	-0.3664	-0.1347	-0.0709	-0.0367	-220.2365	-0.0124	-0.0129	
169525	-0.0938	-0.1501	-0.0849	-0.0419	-6.9823	-0.0149	-0.0106	
Reps		Position 3						
0	-0.0385	-0.0270	-0.0166	-0.0149	-0.0126	-0.0074	-0.0016	
500	0.0348	-0.0363	-0.0227	-0.0194	-0.0102	-0.0078	-0.0102	
1000	-0.0308	-0.0418	-0.0257	-0.0177	-0.0137	-0.0080	-0.0058	
2500	-0.0298	-0.0507	-0.0285	-0.0189	-0.0134	-0.0095	-0.0149	
5000	-0.0283	-0.0639	-0.0383	-0.0215	-0.0153	-0.0095	-0.0094	
10000	-0.0424	-0.0782	-0.0396	-0.0249	-0.0137	-0.0091	-0.0056	
25000	-0.0359	-0.0916	-0.0486	-0.0263	-0.0154	-0.0105	-0.0061	
51500	-1.0909	-0.1207	-0.0683	-0.0301	-9.6085	-0.0124	-0.0146	
169525	-0.9004	-0.1317	-0.0759	-0.0374	-4.7479	-0.0117	-0.0123	

Table E-7-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C6)

702C6		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	0.1094	0.0581	0.0356	0.0281	0.0205	0.0200	0.0235	
500	0.1414	0.0809	0.0445	0.0377	0.0204	0.0186	0.0184	
1000	0.2576	0.0909	0.0513	0.0386	0.0210	0.0211	0.0238	
2500	0.2121	0.1120	0.0622	0.0464	0.0250	0.0196	0.0117	
5000	0.2335	0.1347	0.0677	0.0500	0.0268	0.0216	0.0210	
10000	0.2070	0.1647	0.0820	0.0604	0.0305	0.0207	0.0211	
25000	0.2293	0.1989	0.0972	0.0682	0.0340	0.0212	0.0217	
51500	0.1831	0.2599	0.1333	0.0858	82.2668	0.0242	0.0192	
169525	0.5088	0.2704	0.1491	0.0928	3.2208	0.0262	0.0176	
Reps		Position 2						
0	0.1275	0.0741	0.0516	0.0362	0.0247	0.0189	0.0175	
500	0.4319	0.1085	0.0644	0.0545	0.0299	0.0204	0.0139	
1000	0.1859	0.1244	0.0741	0.0553	0.0326	0.0217	0.0217	
2500	0.2156	0.1576	0.0864	0.0640	0.0347	0.0221	0.0134	
5000	0.3067	0.1917	0.0998	0.0731	0.0390	0.0261	0.0253	
10000	0.2662	0.2348	0.1210	0.0815	0.0434	0.0274	0.0255	
25000	0.3581	0.2849	0.1458	0.0976	0.0449	0.0310	0.0270	
51500	0.1984	0.3710	0.1904	0.1185	101.5587	0.0373	0.0204	
169525	0.7247	0.3937	0.2174	0.1334	6.2205	0.0379	0.0234	
Reps		Position 3						
0	0.1040	0.0561	0.0402	0.0327	0.0238	0.0146	0.0271	
500	0.2355	0.0857	0.0573	0.0457	0.0242	0.0179	0.0153	
1000	0.1584	0.1049	0.0623	0.0473	0.0272	0.0185	0.0178	
2500	0.1767	0.1289	0.0742	0.0548	0.0315	0.0200	0.0084	
5000	0.2212	0.1656	0.0848	0.0633	0.0362	0.0227	0.0163	
10000	0.2322	0.2018	0.1051	0.0720	0.0369	0.0246	0.0195	
25000	0.2834	0.2458	0.1291	0.0822	0.0396	0.0252	0.0202	
51500	0.3061	0.3213	0.1625	0.1033	-0.7654	0.0295	0.0194	
169525	0.7396	0.3378	0.1869	0.1148	5.4181	0.0319	0.0202	

Table E-7-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C6)

702C6		Longitudinal Displacement (mm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	-0.0336	-0.0241	-0.0246	-0.0224	-0.0181	-0.0132	-0.0061	
500	-0.0088	-0.0277	-0.0270	-0.0244	-0.0183	-0.0158	-0.0225	
1000	0.1401	-0.0297	-0.0280	-0.0235	-0.0193	-0.0138	-0.0104	
2500	0.0303	-0.0356	-0.0307	-0.0247	-0.0180	-0.0182	-0.0338	
5000	0.0488	-0.0400	-0.0350	-0.0246	-0.0203	-0.0151	-0.0115	
10000	-0.0284	-0.0445	-0.0387	-0.0285	-0.0221	-0.0156	-0.0146	
25000	-0.0234	-0.0499	-0.0426	-0.0301	-0.0252	-0.0172	-0.0159	
51500	-0.0556	-0.0580	-0.0506	-0.0339	-39.7611	-0.0187	-0.0198	
169525	-0.0867	-0.0616	-0.0534	-0.0371	-2.7750	-0.0203	-0.0193	
Reps		Position 2						
0	-0.0208	-0.0247	-0.0219	-0.0185	-0.0133	-0.0115	-0.0040	
500	0.2475	-0.0288	-0.0240	-0.0193	-0.0163	-0.0087	-0.0118	
1000	-0.0078	-0.0352	-0.0303	-0.0236	-0.0124	-0.0117	-0.0020	
2500	-0.0081	-0.0394	-0.0316	-0.0220	-0.0142	-0.0103	-0.0142	
5000	0.0119	-0.0473	-0.0380	-0.0266	-0.0160	-0.0099	0.0025	
10000	-0.0300	-0.0565	-0.0429	-0.0307	-0.0164	-0.0115	-0.0031	
25000	0.0090	-0.0622	-0.0507	-0.0308	-0.0199	-0.0110	-0.0033	
51500	-0.2753	-0.0765	-0.0585	-0.0367	-220.1886	-0.0124	-0.0129	
169525	-0.0851	-0.0787	-0.0626	-0.0419	-5.8276	-0.0149	-0.0106	
Reps		Position 3						
0	-0.0216	-0.0220	-0.0164	-0.0149	-0.0126	-0.0074	0.0087	
500	0.0927	-0.0251	-0.0210	-0.0194	-0.0102	-0.0078	-0.0102	
1000	-0.0252	-0.0288	-0.0257	-0.0177	-0.0137	-0.0080	-0.0058	
2500	-0.0202	-0.0343	-0.0264	-0.0189	-0.0134	-0.0095	-0.0149	
5000	-0.0119	-0.0410	-0.0315	-0.0215	-0.0153	-0.0095	-0.0094	
10000	-0.0284	-0.0470	-0.0338	-0.0249	-0.0137	-0.0091	-0.0056	
25000	-0.0092	-0.0531	-0.0391	-0.0263	-0.0154	-0.0105	-0.0061	
51500	-0.4480	-0.0659	-0.0516	-0.0301	-9.6085	-0.0124	-0.0146	
169525	-0.0543	-0.0671	-0.0510	-0.0329	-4.7479	-0.0117	-0.0123	

Table E-7-5. Maximum peak transverse displacements in subgrade (TS702C6)

702C6		Transverse Displacement (mm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	0.0738	0.0208	10.4343	0.0214	0.0131	0.0116	0.0155	
500	0.1282	0.0354	8.9607	0.0235	0.0123	0.0112	0.0091	
1000	0.0741	0.0433	10.0458	0.0235	0.0146	0.0135	0.0100	
2500	0.0830	0.0544	5.9910	0.0242	0.0157	0.0138	0.0087	
5000	0.0845	0.0628	4.7023	0.0264	0.0148	0.0158	0.0093	
10000	0.0978	0.0755	2.9988	0.0294	0.0165	0.0162	0.0119	
25000	0.0949	0.0864	5.4376	0.0319	0.0180	0.0165	0.0115	
51500	0.0725	0.1105	1.2281	0.0360	0.0126	0.0175	0.0109	
169525	0.4093	0.1056	2.3704	0.0374	0.0178	0.0188	0.0120	
Reps		Position 2						
0	0.0883	0.0441	11.2465	0.0353	0.0212	0.0165	0.0108	
500	0.0978	0.0701	12.0473	0.0401	0.0239	0.0174	0.0185	
1000	0.0982	0.0853	11.0974	0.0432	0.0245	0.0172	0.0139	
2500	0.1026	0.0968	5.2991	0.0470	0.0253	0.0194	0.0140	
5000	0.1751	0.1133	5.1484	0.0488	0.0284	0.0204	0.0139	
10000	0.1280	0.1341	5.3913	0.0540	0.0288	0.0214	0.0113	
25000	0.1383	0.1561	3.5405	0.0621	0.0322	0.0227	0.0162	
51500	0.1194	0.1921	0.0040	0.0714	0.0308	0.0253	0.0154	
169525	0.6078	0.1934	3.6516	0.0752	0.0365	0.0263	0.0156	
Reps		Position 3						
0	0.1046	0.0404	6.7197	0.0348	0.0216	0.0136	0.0103	
500	0.1075	0.0742	7.5944	0.0430	0.0239	0.0139	0.0136	
1000	0.1131	0.0821	9.9685	0.0453	0.0238	0.0166	0.0104	
2500	0.1158	0.1044	5.2271	0.0489	0.0263	0.0175	0.0121	
5000	0.1245	0.1260	5.7156	0.0537	0.0304	0.0174	0.0137	
10000	0.1454	0.1488	6.6614	0.0597	0.0309	0.0189	0.0128	
25000	0.1601	0.1757	3.6219	0.0660	0.0346	0.0203	0.0177	
51500	0.1783	0.2110	6.4824	0.0743	0.0378	0.0215	0.0157	
169525	0.5683	0.2161	3.5047	0.0803	0.0374	0.0228	0.0155	

Table E-8-1. Maximum peak vertical strains in subgrade (TS702C1)

702C1		Vertical Strain (μm)						
Depth (mm)		225	378	533	686	835	968	1105
Reps		Position 1						
0	-1748	-2579	-1495	-734	-562	-342	-294	
500	-1745	-2690	-1547	-806	-594	-358	-295	
1000	-1836	-2821	-1622	-813	-608	-360	-301	
2500	-1970	-3109	-1769	-858	-660	-385	-326	
5000	-2079	-3431	-1922	-963	-700	-412	-341	
10000	-2304	-3856	-2143	-1056	-763	-449	-352	
25000	-2677	-4462	-2497	-1237	-869	-492	-390	
51431	-2434	-4087	-2481	-1247	-876	-475	-385	
Reps		Position 2						
0	-1564	-2781	-1650	-828	-459	-367	-292	
500	-1588	-2925	-1716	-816	-638	-383	-315	
1000	-1636	-3056	-1815	-862	-662	-391	-322	
2500	-1807	-3390	-1990	-932	-716	-420	-348	
5000	-1929	-3706	-2145	-1013	-755	-446	-364	
10000	-2188	-4202	-2389	-1133	-802	-478	-382	
25000	-2572	-4961	-2828	-1320	-955	-533	-417	
51431	-2308	-4831	-2805	-1315	-956	-542	-414	
Reps		Position 3						
0	-1049	-2367	-1437	-712	-560	-347	-299	
500	-1101	-2469	-1511	-716	-571	-352	-292	
1000	-1128	-2589	-1567	-735	-599	-371	-312	
2500	-1261	-2897	-1729	-800	-654	-389	-323	
5000	-1312	-3178	-1881	-870	-687	-415	-343	
10000	-1498	-3607	-2086	-1003	-751	-445	-356	
25000	-1698	-4266	-2455	-1113	-852	-493	-386	
51431	-1075	-3770	-2313	-1086	-826	-487	-376	

Table E-8-2. Maximum peak longitudinal strains (A) in subgrade (TS702C1)

702C1		Longitudinal Strain (μm)						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	-222	-204	-171	-82	-31	-52	-45	
500	-251	-234	-174	-98	-87	-56	-66	
1000	-223	-260	-179	-105	-90	-51	-47	
2500	-281	-289	-208	-133	-92	-50	-64	
5000	-304	-349	-232	-144	-51	-51	-51	
10000	-349	-417	-252	-145	-67	-58	-63	
25000	-454	-538	-304	-176	-113	-63	-42	
51431	-2290	-448	-303	-189	-125	-63	-67	
Reps		Position 2						
0	-273	-221	-115	-47	-59	-37	-37	
500	-304	-258	-121	-83	-52	-34	-46	
1000	-277	-273	-149	-77	-61	-41	-45	
2500	-327	-320	-166	-84	-75	-40	-45	
5000	-349	-366	-198	-97	-107	-35	-48	
10000	-406	-429	-231	-111	-61	-41	-43	
25000	-549	-585	-315	-135	-83	-42	-40	
51431	-375	-585	-322	-142	-89	-49	-61	
Reps		Position 3						
0	-220	-174	-119	-57	-31	-39	-49	
500	-235	-213	-109	-58	-44	-35	-39	
1000	-226	-236	-123	-59	-67	-40	-46	
2500	-268	-266	-144	-81	-53	-39	-45	
5000	-278	-322	-180	-83	-51	-40	-50	
10000	-328	-384	-193	-103	-53	-40	-68	
25000	-407	-490	-266	-135	-93	-42	-51	
51431	-10273	-421	-255	-133	-47	-42	-55	

Table E-8-3. Maximum peak longitudinal strains (B) in subgrade (TS702C1)

702C1		Longitudinal Strain (μm)						
Depth (mm)	152	298	457	610	762	908	1029	
Reps			Position 1					
0	837	698	403	243	231	98	96	
500	867	731	415	244	135	87	71	
1000	954	773	445	266	136	99	77	
2500	1055	888	500	267	153	111	91	
5000	1141	1014	572	305	207	111	97	
10000	1547	1236	663	372	200	127	82	
25000	1982	1573	864	452	208	136	109	
51431	63903	1305	833	424	253	136	100	
Reps			Position 2					
0	965	774	431	258	1248	91	75	
500	959	1098	456	258	155	102	104	
1000	1030	1158	472	891	163	106	83	
2500	1173	4533	551	304	160	125	82	
5000	1315	1072	626	4588	285	111	105	
10000	1800	1293	710	393	963	127	104	
25000	2373	1776	946	509	238	158	119	
51431	43642	1777	955	838	359	149	99	
Reps			Position 3					
0	836	3441	376	546	285	106	71	
500	864	624	391	936	138	88	91	
1000	905	679	413	251	166	103	82	
2500	1023	794	464	1105	166	108	87	
5000	1081	901	540	373	236	107	104	
10000	1499	1659	629	349	222	138	115	
25000	2118	1525	807	454	239	146	99	
51431	60174	1333	755	398	345	143	170	

Table E-8-4. Maximum peak longitudinal strains (C) in subgrade (TS702C1)

702C1		Longitudinal Strain (μm)						
Depth (mm)		152	298	457	610	762	908	1029
Reps		Position 1						
0	-70	-185	-171	-82	-6	-52	-127	
500	-79	-181	-174	-171	-87	-56	-66	
1000	-40	-197	-179	-220	-90	-51	-47	
2500	-74	-214	-208	-532	-92	-50	-64	
5000	-80	-252	-232	-144	-40	-51	-41	
10000	-90	-291	-252	-145	-67	-58	-63	
25000	-1389	-378	-304	-176	-113	-63	-42	
51431	-2290	-348	-303	-751	-125	-63	-67	
Reps		Position 2						
0	-76	-215	-170	-883	197	-60	-42	
500	-92	-216	-181	-160	-77	-51	-76	
1000	-66	-227	-194	-114	-91	-57	-47	
2500	-84	-256	-220	-123	-108	-55	-173	
5000	-99	-287	-240	-131	-121	-63	-52	
10000	-115	-333	-278	-1554	191	-57	-81	
25000	-3145	-426	-332	-191	-121	-62	-48	
51431	-1612	-458	-326	-190	-78	-69	-54	
Reps		Position 3						
0	-83	-180	-148	-308	-15	-40	-180	
500	-74	-193	-166	-109	-94	-43	-45	
1000	-69	-203	-161	-809	-68	-48	-50	
2500	-134	-238	-196	-108	-93	-61	-46	
5000	-95	-266	-213	-121	-82	-53	-36	
10000	-108	-301	-241	-1381	-54	-55	-47	
25000	-143	-371	-289	-363	-124	-65	-52	
51431	-48548	-331	-270	-529	-56	-58	-56	

Table E-8-5. Maximum peak transverse displacements in subgrade (TS702C1)

702C1		Transverse Strain (μm)					
Depth (mm)	152	298	457	610	762	908	1029
Reps		Position 1					
0	589	-132	311	2089	71	57	28
500	641	631	360	1965	56	87	161
1000	575	584	376	1920	60	85	78
2500	732	897	421	3445	71	96	62
5000	878	1114	477	1488	76	107	109
10000	961	1044	547	2939	91	112	60
25000	100561	1087	653	2751	94	129	84
51431	295578	965	662	2486	104	116	71
Reps		Position 2					
0	658	1299	492	1450	211	110	24
500	696	745	503	1440	98	105	98
1000	616	697	541	1356	119	117	109
2500	824	-1176	596	1950	118	119	56
5000	876	1008	675	1711	134	117	105
10000	997	1094	754	3333	156	138	79
25000	49106	1278	886	3285	163	155	97
51431	144666	1378	936	1637	161	151	89
Reps		Position 3					
0	658	-612	410	1656	120	92	69
500	694	823	457	1469	113	105	64
1000	698	647	483	2101	105	107	54
2500	681	712	545	1998	117	113	67
5000	797	837	622	1530	135	124	72
10000	814	1092	702	2585	148	133	79
25000	243239	1197	827	1968	164	156	105
51431	-11257	1225	819	2083	163	148	92

Table E-9-1. Maximum peak vertical strains in subgrade (TS702C2)

702C2		Vertical Strain (μm)						
Depth (mm)		229	381	533	687	836	978	1127
Reps		Position 1						
0	-1171	-2564	-1727	-1158	-656	-475	-329	
500	-1254	-2653	-1806	-1227	-689	-439	-340	
1000	-2470	-2923	-1930	-1301	-739	-521	-343	
2500	-7930	-3325	-2169	-1445	-787	-566	-358	
5000	-4471	-3769	-2401	-1570	-858	-590	-386	
10000	-9359	-4583	-2694	-1728	-934	-631	-412	
25000	-4605	-4943	-3130	-1933	-1051	-700	-440	
46500	-4723	-5595	-3536	-2171	-1169	-776	-480	
Reps		Position 2						
0	-1174	-2566	-1730	-1157	-652	-475	-330	
500	-3216	-3013	-1995	-1332	-742	-526	-352	
1000	-8600	-3323	-2149	-1445	-787	-540	-368	
2500	-13468	-3766	-2400	-1582	-858	-586	-380	
5000	-4525	-4234	-2668	-1730	-920	-625	-404	
10000	-12071	-5511	-3004	-1885	-1004	-669	-437	
25000	-9072	-5754	-3496	-2151	-1140	-753	-469	
46500	-7467	-6327	-4018	-2440	-1295	-835	-516	
Reps		Position 3						
0	-1174	-2566	-1730	-1157	-652	-475	-330	
500	-2991	-2834	-1842	-1228	-684	-461	-325	
1000	-4402	-3700	-2028	-1343	-747	-505	-350	
2500	-13974	-3719	-2236	-1471	-794	-536	-367	
5000	-10267	-4423	-2488	-1605	-876	-566	-386	
10000	-15054	-5269	-2765	-1747	-944	-613	-402	
25000	-20362	-5820	-3237	-2010	-1082	-685	-445	
46500	-14674	-6163	-3678	-2228	-1194	-747	-489	

Table E-9-2. Maximum peak longitudinal strains (A) in subgrade (TS702C2)

702C2		Longitudinal Strain (μm)						
Depth (mm)		152	305	457	610	764	908	1048
Reps		Position 1						
0	-2686	-304	-210	-138	-92	-62	-47	
500	-2259	-319	-232	-158	-99	-52	-54	
1000	-3514	-392	-236	-166	-119	-51	-47	
2500	-1294	-440	-284	-185	-96	-61	-39	
5000	-2026	-545	-331	-218	-108	-58	-49	
10000	-1667	-654	-387	-264	-126	-54	-48	
25000	-2006	-900	-514	-312	-139	-70	-44	
46500	-2581	-1121	-610	-397	-156	-74	-51	
Reps		Position 2						
0	-1771	-306	-208	-139	-49	-36	-31	
500	-1850	-354	-238	-182	-44	-30	-39	
1000	-2110	-396	-282	-178	-51	-39	-31	
2500	-1540	-486	-325	-190	-33	-40	-28	
5000	-1487	-590	-385	-225	-30	-39	-30	
10000	-2331	-729	-448	-251	-50	-42	-35	
25000	-2133	-981	-565	-343	-59	-58	-37	
46500	-2866	-1217	-731	-428	-70	-64	-43	
Reps		Position 3						
0	-1771	-306	-208	-139	-49	-36	-31	
500	-1564	-305	-222	-122	-32	-35	-30	
1000	-713	-385	-253	-151	-33	-33	-29	
2500	-591	-431	-278	-173	-26	-29	-32	
5000	-3207	-528	-363	-202	-39	-43	-35	
10000	-1828	-623	-399	-225	-44	-44	-30	
25000	-1430	-874	-513	-303	-42	-55	-21	
46500	-2172	-1064	-660	-353	-59	-51	-36	

Table E-9-3. Maximum peak longitudinal strains (B) in subgrade (TS702C2)

702C2		Longitudinal Strain (μm)					
Depth (mm)	152	305	457	610	764	908	1048
Reps		Position 1					
0	544	796	519	367	195	108	108
500	588	910	596	421	207	101	114
1000	2291	1065	667	421	212	136	93
2500	4033	1306	741	504	240	147	105
5000	1707	1518	835	538	269	160	107
10000	3939	1841	1017	623	290	193	121
25000	587	2294	1207	722	338	203	130
46500	665	2743	1504	885	410	233	132
Reps		Position 2					
0	467	792	516	373	193	110	109
500	1185	1074	650	411	218	140	108
1000	6438	1202	724	469	216	145	102
2500	9924	1433	824	546	242	156	107
5000	628	3327	938	589	274	169	116
10000	6039	2295	1116	682	292	181	131
25000	2798	2573	1366	810	354	218	126
46500	848	3082	1667	991	435	261	139
Reps		Position 3					
0	467	792	516	373	193	110	112
500	990	1125	587	412	198	128	95
1000	841	1324	682	451	222	137	93
2500	9241	1323	809	478	223	157	86
5000	5303	1658	889	551	242	159	97
10000	9341	2159	1072	627	280	167	110
25000	13646	2437	1289	740	329	195	126
46500	7590	2799	1513	902	384	227	146

Table E-9-4. Maximum peak longitudinal strains (C) in subgrade (TS702C2)

702C2		Longitudinal Strain (μm)						
Depth (mm)		152	305	457	610	764	908	1048
Reps		Position 1						
0	-2262	-239	-181	-123	-92	-62	-47	
500	-1869	-492	-203	-136	-99	-52	-54	
1000	-3187	-1878	-236	-158	-119	-51	-47	
2500	217	-2095	-284	-145	-96	-61	-48	
5000	-2111	-297	-296	-170	-108	-58	-68	
10000	-707	-313	-304	-157	-126	-54	-48	
25000	-309	-370	-358	-198	-139	-70	-79	
46500	-166	-401	-373	-217	-156	-74	-51	
Reps		Position 2						
0	-2600	-242	-184	-117	-94	-58	-46	
500	-959	-5194	-228	-146	-102	-57	-53	
1000	-3926	-268	-243	-139	-102	-51	-41	
2500	-1339	-360	-274	-157	-96	-49	-43	
5000	-1521	-345	-308	-189	-122	-57	-80	
10000	-851	-539	-336	-193	-146	-62	-55	
25000	-1904	-426	-376	-233	-166	-74	-62	
46500	-1364	-479	-450	-263	-183	-78	-63	
Reps		Position 3						
0	-2600	-242	-184	-117	-94	-58	-49	
500	-1892	-230	-198	-119	-94	-39	-41	
1000	-642	-1731	-220	-154	-96	-54	-40	
2500	-463	-763	-236	-162	-98	-44	-76	
5000	-2593	-320	-269	-173	-125	-47	-85	
10000	-1370	-336	-282	-197	-121	-61	-47	
25000	-1255	-411	-339	-224	-141	-71	-73	
46500	-1377	-430	-342	-231	-151	-66	-57	

Table E-9-5. Maximum peak transverse strains in subgrade (TS702C2)

702C2		Transverse Strain (μm)						
Depth (mm)	152	305	457	610	764	908	1048	
Reps			Position 1					
0	2955	754	481	289	181	129	108	
500	2401	684	407	234	157	117	113	
1000	3399	830	461	281	138	131	107	
2500	763	891	487	317	168	134	119	
5000	2299	815	541	305	148	160	105	
10000	1065	1178	655	360	174	153	129	
25000	913	1412	710	377	174	164	147	
46500	1209	1140	785	406	177	187	136	
Reps			Position 2					
0	2832	698	482	289	181	132	115	
500	470	720	541	348	157	140	111	
1000	3622	652	598	364	187	127	123	
2500	93	1026	666	408	199	171	134	
5000	495	1264	728	422	199	167	106	
10000	1128	1564	858	480	196	174	142	
25000	843	1434	933	561	229	193	143	
46500	1160	1389	1038	595	254	187	159	
Reps			Position 3					
0	1543	698	482	289	181	132	120	
500	1186	340	513	333	156	148	80	
1000	80	1151	617	372	167	156	83	
2500	703	884	690	407	172	160	108	
5000	2087	502	744	466	174	156	100	
10000	1821	1490	879	510	193	182	91	
25000	1401	1581	966	561	227	184	114	
46500	1509	1306	1008	637	246	192	127	

Table E-10-1. Maximum peak vertical strains in subgrade (TS702C3)

702C3		Vertical Strain (μm)						
Depth (mm)		222	375	533	686	832	981	1146
Reps		Position 1						
0	-2061	-2330	-1524	-819	-401	-405		
500	-2154	-2304	-1658	-887	-420	-405		
1000	-2243	-2612	-1737	-946	-424	-425		
2500	-2449	-2903	-1894	-1001	-443	-433		
5000	-2660	-3183	-2022	-1064	-470	-455		
10700	-2988	-3681	-2239	-1180	-510	-485		
25000	-3186	-4155	-2454	-1293	-299	-522		
56036	-2579	-3638	-2578	-1377	-581	-543		
103308	-3981	-4801	-3066	-1676	-686	-630		
Reps		Position 2						
0	-2000	-2556	-1619	-909	-439	-421		
500	-2134	-2672	-1804	-1006	-443	-433		
1000	-2187	-2953	-1890	-1061	-474	-452		
2500	-2474	-3360	-2075	-1148	-501	-476		
5000	-2640	-3681	-2223	-1214	-523	-493		
10700	-3032	-4211	-2466	-1367	-560	-533		
25000	-3392	-3773	-2767	-1534	-620	-595		
56036	-3771	-5072	-2991	-1674	-676	-624		
103308	-4002	-5649	-3449	-1980	-785	-706		
Reps		Position 3						
0	-2024	-2247	-1361	-801	-390	-383		
500	-2077	-2514	-1547	-899	-403	-397		
1000	-2184	-2795	-1620	-965	-421	-412		
2500	-2440	-3136	-1771	-1017	-440	-427		
5000	-2594	-3422	-1900	-1083	-471	-449		
10700	-2951	-3977	-2098	-1203	-498	-487		
25000	-3252	-4446	-2336	-1344	-541	-517		
56036	-5348	-4577	-2507	-1475	-598	-549		
103308	-3778	-4883	-2732	-1678	-656	-1670		

Table E-10-2. Maximum peak longitudinal strains (A) in subgrade (TS702C3)

702C3		Longitudinal Strain (μm)						
Depth (mm)		152	292	457	610	762	902	1060
Reps		Position 1						
0		-202	-242	-159	-76	-46	-67	-121
500		-211	-240	-177	-90	-55	-44	-39
1000		-209	-250	-182	-103	-51	-51	-46
2500		-198	-308	-191	-114	-58	-46	-39
5000		-373	-357	-246	-122	-57	-55	-30
10700		-305	-446	-256	-137	-69	-54	-25
25000		-169	-552	-276	-150	-90	-69	-62
56036		-7126	-485	-287	-149	-88	-61	-45
103308		-412014	-768	-368	-200	-89	-70	-30
Reps		Position 2						
0		-230	-313	-124	-66	-39	-28	-8
500		-258	-293	-143	-66	-29	-19	-18
1000		-219	-337	-136	-89	-53	-29	-11
2500		-176	-395	-175	-104	-52	-27	-16
5000		-247	-468	-185	-114	-60	-32	-22
10700		-308	-587	-237	-140	-65	-38	-18
25000		-597	-516	-293	-177	-65	-39	-26
56036		-277972	-832	-348	-193	-85	-36	-19
103308		-2427	-1017	-468	-249	-103	-51	-15
Reps		Position 3						
0		-199	-299	-114	-69	-36	-28	-98
500		-301	-264	-119	-65	-30	-15	-13
1000		-147	-318	-138	-93	-54	-18	-13
2500		-1191	-340	-162	-99	-52	-34	-53
5000		-204	-417	-203	-116	-63	-32	-43
10700		-244	-494	-252	-139	-68	-31	-19
25000		-286	-634	-271	-164	-83	-36	-26
56036		-665954	-762	-370	-186	-72	-33	-75
103308		-1767	-883	-455	-238	-91	-49	-8

Table E-10-3. Maximum peak longitudinal strains (B) in subgrade (TS702C3)

702C3		Longitudinal Strain (μm)							
Depth (mm)		152	292	457	610	762	902	1060	
Reps				Position 1					
0	1065	593	338	306	140	97	83		
500	1058	785	419	349	165	116	94		
1000	1122	821	444	344	162	113	90		
2500	1250	990	510	383	177	117	101		
5000	1218	1082	543	407	184	129	104		
10700	1664	1331	652	468	205	138	125		
25000	2390	1570	794	530	144	138	119		
56036	-1253	1342	892	578	219	154	124		
103308	193114	2153	1181	727	292	187	145		
Reps				Position 2					
0	1096	2659	2271	3908	2886	108	96		
500	8666	857	464	389	193	119	97		
1000	1361	933	506	379	164	128	113		
2500	1379	1105	578	419	193	128	98		
5000	24669	1233	637	449	197	138	105		
10700	1756	1486	757	517	222	137	117		
25000	1968	1427	938	601	271	163	128		
56036	57900	2028	1075	690	262	181	133		
103308	129407	2449	1420	847	332	202	288		
Reps				Position 3					
0	924	2633	2243	3890	2877	96	94		
500	8445	744	433	342	160	121	81		
1000	992	837	450	342	151	116	92		
2500	620	973	509	370	172	107	4157		
5000	165760	1074	562	389	177	120	300		
10700	1487	1295	659	447	190	132	94		
25000	2021	1588	803	514	215	144	110		
56036	41566	1720	956	578	224	155	152		
103308	50008	1996	1169	18384	283	170	112		

Table E-10-4. Maximum peak longitudinal strains (C) in subgrade (TS702C3)

702C3		Longitudinal Strain (μm)							
Depth (mm)		152	292	457	610	762	902	1060	
Reps		Position 1							
0	-2273	-81	-109	-62	-46	-2632	-74262		
500	-13292	-107	-141	-80	-55	-44	-39		
1000	-1177	-204	-182	-103	-51	-51	-46		
2500	-147	-189	-191	-114	-58	-46	-39		
5000	-29197	-256	-246	-122	-57	-55	-31		
10700	-247	-248	-256	-137	-69	-54	-20		
25000	206	-286	-276	-150	-76	-69	-62		
56036	-5475	-258	-287	-149	-88	-61	-46		
103308	-232121	-338	-368	-200	-89	-70	-31		
Reps		Position 2							
0	-2273	-163	-126	-76	-44	-2629	-74302		
500	-267	-189	-164	-81	-36	-48	-45		
1000	-151	-231	-185	-112	-64	-54	-34		
2500	-223	-265	-201	-110	-50	-61	-39		
5000	-298	-304	-246	-127	-73	-57	-41		
10700	-284	-308	-267	-148	-71	-64	-35		
25000	-934	-238	-274	-162	-74	-63	-43		
56036	-375455	-375	-313	-182	-89	-62	-12		
103308	-37707	-430	-357	-212	-92	-86	46		
Reps		Position 3							
0	-199	-149	-103	-58	-29	-2632	-75085		
500	-306	-215	-115	-70	-41	-37	-41		
1000	-74679	-197	-136	-91	-48	-42	-35		
2500	-1280	-221	-157	-103	-54	-48	-27		
5000	-189	-250	-179	-108	-60	-45	-1840		
10700	-782	-261	-189	-125	-49	-50	-53		
25000	-253	-301	-204	-146	-64	-57	-64		
56036	-597162	-276	-216	-137	-64	-54	-46		
103308	-3894	-364	-261	-175	-68	-73	-31		

Table E-10-5. Maximum peak transverse strains in subgrade (TS702C3)

702C3		Transverse Strain (μm)					
Depth (mm)	152	292	457	610	762	902	1060
Reps		Position 1					
0		-66	50	56	-2	3	
500		51	94	82	40	38	
1000		223	189	129	40	55	
2500		379	242	125	53	52	
5000		456	285	132	67	73	
10700		549	333	145	60	85	
25000		659	374	177	44	85	
56036		611	350	128	24	81	
103308		746	447	213	87	99	
Reps		Position 2					
0		54	138	101	27	19	
500		252	197	119	56	46	
1000		562	384	213	87	81	
2500		671	452	233	92	76	
5000		767	513	302	98	113	
10700		884	587	303	108	108	
25000		884	647	398	123	136	
56036		1189	716	321	121	124	
103308		1323	894	518	146	154	
Reps		Position 3					
0		157	143	125	35	21	
500		262	207	179	56	48	
1000		694	431	267	99	87	
2500		821	497	303	102	86	
5000		885	562	370	119	113	
10700		1030	633	370	124	108	
25000		1229	740	476	146	122	
56036		1224	808	416	139	134	
103308		1418	884	664	146	142	

Table E-11-1. Maximum peak vertical strains in subgrade (TS702C4)

702C4		Vertical Strain (μm)						
Depth (mm)		230	383	533	686	832	962	1102
Reps		Position 1						
0	-1165	-1020	-839	-518	-244	-219	-192	
500	-1327	-1224	-976	-577	-257	-236	-204	
1000	-1410	-1348	-1050	-624	-280	-257	-216	
2500	6335	-1503	-1153	-687	-292	-264	-223	
5000	-1817	-1718	-1296	-758	-319	-287	-242	
10000	-2112	-1997	-1460	-833	-347	-308	-255	
25000	-2357	-2369	-1685	-957	-384	-332	-280	
50000	-2555	-2642	-1883	-1049	-423	-358	-303	
79746	-2741	-2919	-2062	-1152	-462	-390	-317	
158900	-2889	-3197	-2291	-1279	-489	-415	-341	
Reps		Position 2						
0	-1190	-1230	-899	-538	-257	-211	-210	
500	-1428	-1519	-1089	-643	-287	-247	-221	
1000	-1527	-1654	-1169	-678	-300	-251	-234	
2500	-1688	-1843	-1291	-747	-324	-270	-253	
5000	-1921	-2105	-1452	-841	-353	-294	-264	
10000	-2167	-2417	-1626	-923	-380	-317	-289	
25000	-2508	-2856	-1859	-1037	-423	-338	-307	
50000	-2767	-3208	-2121	-1183	-465	-380	-334	
79746	-2876	-3429	-2258	-1257	-498	-391	-340	
158900	-3102	-3809	-2538	-1418	-545	-430	-359	
Reps		Position 3						
0	-999	-1038	-696	-446	-219	-171	-189	
500	-1250	-1408	-924	-561	-258	-206	-202	
1000	-1371	-1550	-1007	-600	-274	-214	-222	
2500	-1475	-1684	-1080	-645	-285	-225	-222	
5000	-1345	-1915	-1190	-704	-308	-241	-242	
10000	-1981	-2241	-1390	-800	-339	-266	-266	
25000	-2358	-2606	-1554	-878	-366	-288	-273	
50000	-2501	-3013	-1795	-1003	-410	-314	-297	
79746	-2610	-3213	-1916	-1077	-435	-329	-312	
158900	-2782	-3557	-2152	-1217	-467	-361	-326	

Table E-11-2. Maximum peak longitudinal strains (A) in subgrade (TS702C4)

702C4		Longitudinal Strain (μm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	-156	-155	-79	-43	-25	-26	-26	
500	-159	-170	-84	-45	-28	-31	-28	
1000	-176	-205	-91	-60	-35	-29	-34	
2500	-182	-221	-107	-57	-33	-30	-37	
5000	-246	-260	-119	-69	-35	-33	-29	
10000	-259	-323	-149	-68	-28	-33	-33	
25000	-289	-394	-177	-86	-51	-42	-37	
50000	-361	-491	-211	-106	-43	-44	-38	
79746	-301	-526	-244	-119	-51	-41	-37	
158900	-327	-568	-270	-121	-50	-42	-47	
Reps		Position 2						
0	-222	-191	-86	-37	-25	-30	-9	
500	-250	-207	-95	-45	-25	-16	-7	
1000	-253	-222	-101	-53	-27	-20	-11	
2500	-273	-264	-113	-56	-35	-19	-9	
5000	-312	-305	-142	-66	-36	-30	-13	
10000	-348	-364	-172	-69	-38	-24	-12	
25000	-406	-454	-205	-92	-44	-32	-16	
50000	-459	-545	-276	-105	-38	-40	-21	
79746	-472	-602	-285	-129	-54	-34	-13	
158900	-805	-655	-319	-148	-47	-41	-17	
Reps		Position 3						
0	-196	-142	-76	-36	-22	-16	-9	
500	-210	-182	-81	-45	-31	-15	-10	
1000	-215	-193	-89	-48	-23	-22	-9	
2500	-282	-219	-111	-46	-25	-18	-16	
5000	-230	-273	-119	-60	-27	-18	-12	
10000	-324	-302	-143	-66	-30	-25	-16	
25000	-366	-383	-175	-90	-33	-28	-16	
50000	-568	-474	-223	-106	-51	-38	-13	
79746	-411	-504	-246	-116	-51	-29	-13	
158900	-696	-561	-291	-133	-48	-33	-12	

Table E-11-3. Maximum peak longitudinal strains (B) in subgrade (TS702C4)

702C4		Longitudinal Strain (μm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	578	310	190	141	75	62	43	
500	554	375	238	164	76	63	42	
1000	579	435	261	176	85	67	39	
2500	623	498	294	194	91	67	38	
5000	780	621	350	228	102	82	48	
10000	694	740	411	254	112	83	57	
25000	1009	945	503	287	122	96	55	
50000	1124	1068	598	339	140	106	50	
79746	1458	1225	683	372	150	108	66	
158900	1617	1476	831	459	183	127	69	
Reps		Position 2						
0	722	351	216	150	83	62	43	
500	685	441	271	181	87	78	48	
1000	700	505	291	189	90	71	46	
2500	787	581	335	218	95	88	50	
5000	935	714	393	248	112	88	55	
10000	998	839	442	287	117	96	55	
25000	1207	1037	551	316	132	101	59	
50000	1449	1244	675	382	158	124	73	
79746	1595	1376	763	420	167	123	75	
158900	1947	1683	939	508	197	145	78	
Reps		Position 3						
0	666	290	181	138	68	58	38	
500	537	382	233	163	73	70	59	
1000	520	446	258	178	83	76	51	
2500	682	510	293	188	89	77	48	
5000	1523	589	333	214	102	82	98	
10000	785	721	386	236	103	89	53	
25000	1809	866	458	270	119	89	56	
50000	3718	1078	586	330	142	99	68	
79746	1322	1197	647	360	142	116	67	
158900	2115	1463	792	438	170	123	71	

Table E-11-4. Maximum peak longitudinal strains (C) in subgrade (TS702C4)

702C4		Longitudinal Strain (μm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	-80	-83	-67	-43	-25	-26	-26	
500	-306	-116	-84	-45	-28	-31	-28	
1000	-59	-128	-91	-60	-35	-29	-34	
2500	-587	-136	-102	-57	-33	-30	-37	
5000	-105	-182	-119	-69	-35	-33	-29	
10000	-1826	-197	-149	-68	-28	-33	-33	
25000	-141	-243	-168	-86	-51	-42	-37	
50000	-1965	-269	-178	-101	-43	-44	-38	
79746	-553	-288	-200	-109	-51	-41	-37	
158900	-151	-246	-205	-103	-50	-42	-47	
Reps		Position 2						
0	-94	-143	-68	-44	-29	-24	-29	
500	-93	-143	-93	-47	-34	-26	-28	
1000	-98	-149	-96	-61	-32	-25	-31	
2500	-540	-175	-107	-64	-37	-30	-33	
5000	-2268	-207	-137	-69	-32	-35	-32	
10000	-476	-233	-153	-74	-41	-31	-33	
25000	-9949	-276	-178	-87	-47	-39	-33	
50000	-1351	-315	-222	-99	-43	-51	-35	
79746	-181	-330	-215	-117	-58	-36	-42	
158900	-411	-365	-236	-126	-48	-38	-43	
Reps		Position 3						
0	-1810	-93	-52	-38	-24	-28	-22	
500	-679	-118	-76	-43	-29	-24	-32	
1000	-175	-123	-78	-48	-35	-27	-26	
2500	-125	-144	-92	-52	-35	-32	-27	
5000	-84	-169	-96	-55	-34	-22	-25	
10000	-717	-193	-116	-72	-40	-31	-36	
25000	-138	-237	-151	-79	-35	-39	-29	
50000	-362	-236	-175	-82	-36	-44	-48	
79746	-128	-272	-174	-90	-52	-30	-37	
158900	-31546	-271	-202	-101	-52	-33	-40	

Table E-11-5. Maximum peak transverse strains in subgrade (TS702C4)

702C4		Transverse Strain (μm)						
Depth (mm)		152	308	457	610	762	902	1022
Reps		Position 1						
0	11292	143	116	98	54	36	42	
500	11977	131	123	97	43	37	28	
1000	12779	131	125	105	58	27	25	
2500	99842	151	132	112	62	29	36	
5000	119151	199	151	133	56	40	37	
10000	126218	219	163	139	69	28	40	
25000	205198	304	200	158	69	39	40	
50000	12994	399	236	172	70	36	39	
79746	12692	383	251	179	81	44	47	
158900	14314	251	198	149	64	40	43	
Reps		Position 2						
0	11956	335	202	144	65	38	45	
500	14533	275	210	154	66	50	30	
1000	14799	298	220	154	65	41	33	
2500	15084	334	244	164	73	42	44	
5000	100438	383	264	192	84	46	50	
10000	16922	416	264	213	84	55	49	
25000	175372	548	324	233	87	65	55	
50000	49623	645	365	281	105	58	41	
79746	14168	598	378	263	101	50	60	
158900	208411	433	341	242	84	62	48	
Reps		Position 3						
0	14521	251	186	138	60	48	36	
500	16205	279	212	144	54	48	37	
1000	16393	330	223	160	64	56	39	
2500	17006	353	235	165	70	53	47	
5000	14087	440	271	188	66	56	31	
10000	19368	507	304	212	78	59	56	
25000	145656	643	352	233	81	53	53	
50000	175923	698	373	265	91	59	67	
79746	16331	678	402	263	85	56	60	
158900	162085	529	372	235	75	58	51	

Table E-12-1. Maximum peak vertical strains in subgrade (TS702C5)

702C5		Vertical Strains (μm)						
Depth (mm)		235	387	533	686	835	965	1102
Reps		Position 1						
0	-1331	-1226	-975	-518	-251	-180	-145	
500	-1453	-1451	-1101	-559	-271	-201	-157	
1000	-1459	-1500	-1102	-553	-271	-193	-144	
2500	-1804	-1890	-1361	-697	-337	-228	-197	
5000	-1922	-2047	-1457	-730	-336	-240	-186	
10000	-2117	-2300	-1600	-784	-369	-259	-202	
25000	-2230	-2514	-1809	-872	-396	-271	-214	
50000	-2334	-2693	-1973	-943	-416	-279	-218	
105800	-2205	-2793	-2071	-977	-511	-6632	-23967	
230048	-1678	-2660	-2094	-1026	-488	-1261	-1833	
425313	-1673	-1877	-1450	-714	-361	-1324	-8041	
761211	-2027	-2533	-1986	-985	-475	-1603	-7329	
1037634	-1852	-2319	-1881	-943	-478	-1492	-5211	
Reps		Position 2						
0	-1358	-1383	-1082	-532	-282	-197	-158	
500	-1449	-1579	-1164	-570	-286	-213	-147	
1000	-1678	-1872	-1394	-665	-345	-247	-174	
2500	-1750	-2030	-1472	-710	-366	-249	-195	
5000	-1972	-2209	-1615	-757	-385	-260	-198	
10000	-2134	-2450	-1755	-802	-405	-273	-209	
25000	-2317	-2786	-1992	-903	-433	-292	-217	
50000	-2577	-2933	-2132	-961	-452	-307	-224	
105800	-2441	-3014	-2241	-1079	-544	-3589	-10164	
230048	-2338	-2890	-2285	-1100	-537	-1076	-1012	
425313	-1821	-1936	-1534	-752	-367	-1627	-5612	
761211	-2230	-2650	-1837	-1054	-517	-1235	-6631	
1037634	-2094	-2583	-2124	-1052	-519	-1160	-4017	
Reps		Position 3						
0	-1126	-1176	-911	-427	-242	-176	-129	
500	-1118	-1276	-963	-445	-245	-191	-139	
1000	-1326	-1541	-1120	-512	-283	-199	-142	
2500	-1381	-1682	-1230	-564	-319	-228	-169	
5000	-1650	-1999	-1399	-619	-352	-237	-183	
10000	-1728	-2130	-1463	-637	-359	-249	-195	
25000	-1887	-2439	-1692	-736	-388	-262	-198	
50000	-1849	-2477	-1778	-767	-398	-266	-194	
105800	-2415	-2502	-1886	-884	-479	-1999	-5906	
230048	-2366	-2433	-1875	-898	-441	-978	-1474	
425313	-1711	-1503	-1194	-579	-317	-1168	-10312	
761211	-2241	-2299	-1836	-862	-442	-1360	-11279	
1037634	-2093	-2228	-1807	-880	-448	-1424	-7629	

Table E-12-2. Maximum peak longitudinal strains (A) in subgrade (TS702C5)

702C5		Longitudinal Strains (μm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	-119	-140	-64	-23	-23	-19	-34150	
500	-179	-180	-88	-39	-24	-20	-27884	
1000	-165	-179	-103	-30	-21	-17	-46443	
2500	-262	-322	-168	-67	-41	-30	-45104	
5000	-299	-358	-172	-85	-33	-31	-30222	
10000	-304	-400	-208	-82	-27	-26	-26197	
25000	-379	-483	-257	-103	-44	-27	-15505	
50000	-417	-548	-288	-127	-42	-26	-14778	
105800	-10039	-547	-337	-150	-48	-48	-12000	
230048	-2127	-515	-323	-130	-56	-39	-5234	
425313	-1732	-363	-240	-104	-57	-35	-3139	
761211	-6151	-529	-326	-131	-51	-32	-5038	
1037634	-4552	-482	-290	-118	-56	-33	-5836	
Reps		Position 2						
0	-130	-170	-74	-35	-8	-14	-26272	
500	-165	-193	-96	-32	-21	-13	-22680	
1000	-215	-241	-111	-42	-23	-21	-34916	
2500	-269	-344	-169	-78	-26	-18	-22709	
5000	-337	-389	-206	-86	-35	-16	-28340	
10000	-328	-421	-210	-75	-26	-28	-23920	
25000	-432	-539	-292	-121	-32	-24	-18861	
50000	-1393	-602	-315	-116	-39	-29	-9987	
105800	-4439	-616	-340	-153	-41	-25	-13296	
230048	-1266	-594	-372	-155	-54	-24	-5438	
425313	-703	-394	-230	-101	-38	-14	-2376	
761211	-2651	-568	-139	-153	-49	-30	-4540	
1037634	-3481	-590	-345	-142	-46	-29	-4037	
Reps		Position 3						
0	-97	-130	-61	-23	-19	-15	-38226	
500	-125	-153	-63	-33	-24	-11	-19105	
1000	-161	-180	-76	-31	-15	-8	-47180	
2500	-208	-269	-144	-65	-30	-16	-18967	
5000	-229	-343	-170	-68	-28	-17	-44733	
10000	-228	-351	-174	-67	-31	-17	-16630	
25000	-300	-457	-232	-89	-27	-22	-26591	
50000	-335	-487	-254	-104	-43	-25	-11468	
105800	-2462	-489	-291	-116	-42	-14	-9331	
230048	-737	-486	-283	-113	-49	-26	-3537	
425313	-960	-283	-171	-73	-22	-22	-2794	
761211	-795	-482	-288	-115	-42	-27	-4927	
1037634	-691	-491	-279	-111	-36	-24	-5779	

Table E-12-3. Maximum peak longitudinal strains (B) in subgrade (TS702C5)

702C5		Longitudinal Strains (μm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	627	491	311	183	107	62	41452	
500	659	610	368	210	119	73	25831	
1000	672	647	366	206	111	71	39444	
2500	896	831	413	247	116	75	50441	
5000	1066	936	474	251	122	77	36713	
10000	1212	1068	539	261	141	72	20830	
25000	1335	1214	606	313	140	85	17399	
50000	1559	1346	705	338	152	86	27124	
105800	35734	1338	751	345	160	88	10312	
230048	45728	1261	743	354	165	90	2539	
425313	36232	824	493	217	107	53	3074	
761211	48065	1198	704	345	168	83	4500	
1037634	44539	1057	626	307	152	97	4112	
Reps		Position 2						
0	772	554	347	200	117	75	45277	
500	761	667	380	223	122	75	32561	
1000	922	820	479	249	133	89	58331	
2500	991	903	463	252	127	79	34594	
5000	1187	1000	511	253	131	84	46037	
10000	1301	1127	563	298	141	77	36765	
25000	1555	1366	662	327	150	83	28151	
50000	1536	1448	740	378	158	98	11074	
105800	46347	1453	788	375	173	98	12507	
230048	69328	1400	771	394	176	109	3250	
425313	38597	835	496	226	108	69	3199	
761211	52936	1253	558	362	173	99	6000	
1037634	47902	1199	689	345	187	103	7528	
Reps		Position 3						
0	723	476	285	173	94	70	57707	
500	662	522	317	176	100	63	42831	
1000	821	659	373	209	108	77	72012	
2500	872	732	376	210	108	75	53521	
5000	1087	888	433	227	124	83	67110	
10000	1113	958	454	238	119	79	28775	
25000	1344	1149	564	278	126	83	17667	
50000	1519	1184	601	287	136	77	8566	
105800	29831	1164	653	315	138	87	8034	
230048	60501	1143	637	325	139	82	5441	
425313	32853	642	385	178	95	44	3933	
761211	46402	1092	628	294	148	84	3600	
1037634	42529	1018	585	291	154	87	3992	

Table E-12-4. Maximum peak longitudinal strains (C) in subgrade (TS702C5)

702C5		Longitudinal Strains (μm)						
Depth (mm)		152	318	457	610	762	908	1022
Reps		Position 1						
0	-749	-5	-8	-15	-15	-19	-36219	
500	-8	-6	-3	1	-9	-14	-29111	
1000	-175	-9	-4	-8	-11	-12	-41214	
2500	-233	-156	-113	-47	-41	-30	-45104	
5000	-197	-162	-117	-59	-33	-31	-37513	
10000	-146	-184	-132	-71	-24	-26	-20620	
25000	-174	-193	-180	-70	-44	-27	-13152	
50000	-198	-218	-186	-67	-42	-25	-12575	
105800	-10292	-204	-215	-102	-48	-48	-12000	
230048	-2958	-149	-196	-87	-56	-39	-5671	
425313	-1682	-169	-197	-100	-57	-35	-3139	
761211	-1985	-184	-228	-100	-51	-32	-5038	
1037634	-1778	-158	-228	-92	-56	-33	-3471	
Reps		Position 2						
0	-27	-54	-51	-28	-12	-17	-39777	
500	-45	-60	-61	-30	-19	-22	-28540	
1000	-1135	-73	-75	-42	-27	-34	-39210	
2500	-188	-176	-133	-66	-36	-22	-36185	
5000	-156	-190	-147	-72	-40	-22	-41590	
10000	-336	-214	-162	-58	-32	-28	-26708	
25000	-260	-249	-219	-86	-50	-27	-27833	
50000	-402	-269	-220	-80	-53	-31	-15959	
105800	-3876	-288	-241	-122	-54	-45	-9759	
230048	-3030	-204	-260	-115	-61	-29	-4766	
425313	-1529	-214	-220	-114	-64	-31	-3570	
761211	-1944	-229	-234	-110	-57	-39	-4376	
1037634	-1438	-233	-275	-119	-57	-34	-2751	
Reps		Position 3						
0	-42	-57	-47	-19	-26	-11	-51232	
500	-59	-56	-45	-32	-24	-15	-24100	
1000	-52	-59	-50	-31	-28	-15	-49178	
2500	-140	-149	-122	-60	-39	-28	-30900	
5000	-147	-157	-135	-55	-39	-26	-35166	
10000	-164	-168	-144	-65	-42	-24	-15018	
25000	-220	-222	-192	-77	-45	-34	-23945	
50000	-209	-205	-189	-85	-46	-33	-9246	
105800	-8777	-212	-226	-104	-47	-40	-10125	
230048	-2856	-172	-213	-99	-64	-29	-2414	
425313	-1659	-178	-180	-86	-54	-41	-2944	
761211	-2093	-177	-215	-99	-63	-34	-5048	
1037634	-1522	-198	-218	-108	-55	-34	-6630	

Table E-12-5. Maximum peak transverse strains in subgrade (TS702C5)

702C5		Transverse Strains (μm)							
Depth (mm)		152	318	457	610	762	908	1022	
Reps				Position 1					
0	569	28		9	10	8	17	9	
500	967	18		19	15	3	5	12	
1000	741	28		5	2	8	-5	11	
2500	3462	234		174	114	59	40	37	
5000	3598	273		185	115	64	45	35	
10000	3495	328		218	123	75	46	23	
25000	3874	436		281	153	79	56	48	
50000	3554	489		311	162	92	47	38	
105800	7267	321		163	137	81	40	-356	
230048	13767	870		522	316	126	66	2408	
425313	22114	557		342	192	111	50	2646	
761211	7721	502		349	278	125	62	2578	
1037634	21285	745		446	290	130	70	2100	
Reps				Position 2					
0	726	16		24	6	17	8	10	
500	325	37		16	0	-3	-2	7	
1000	260	36		12	-5	7	-2	7	
2500	3972	304		226	134	69	39	41	
5000	3264	336		258	136	75	51	17	
10000	3249	402		284	157	97	55	48	
25000	2886	524		361	190	91	59	48	
50000	2954	567		393	211	93	71	46	
105800	1931	671		353	196	85	1	647	
230048	21755	1088		654	378	180	88	1753	
425313	24478	594		382	216	111	51	1728	
761211	8846	720		416	343	154	97	1503	
1037634	24782	866		566	356	161	89	3250	
Reps				Position 3					
0	1970	27		11	8	6	-4	19	
500	2098	20		3	-5	11	3	7	
1000	2099	29		11	-3	7	7	0	
2500	5529	287		202	128	82	40	34	
5000	5304	391		234	140	79	56	42	
10000	4931	417		258	137	73	59	41	
25000	4717	527		327	161	70	56	32	
50000	4666	536		340	169	78	61	44	
105800	12331	809		515	246	153	14	1306	
230048	19323	1079		606	350	175	71	2396	
425313	26324	567		380	213	114	53	2244	
761211	16836	820		542	314	152	82	2482	
1037634	20951	941		559	322	142	96	2753	

Table E-13-1. Maximum peak vertical strains in subgrade (TS702C6)

702C6		Vertical Strain (μm)						
Depth (mm)		235	387	533	686	832	972	1124
Reps		Position 1						
0	-1810	-1235	-1030	-724	-536	-335	-275	
500	-2099	-1706	-1275	-875	-621	-394	-310	
1000	-2120	-1915	-1372	-952	-659	-387	-319	
2500	-2340	-2237	-1557	-1053	-714	-439	-343	
5000	-2659	-2562	-1713	-1151	-783	-470	-372	
10000	-2952	-2933	-1921	-1266	-853	-524	-391	
25000	-3261	-3297	-2161	-1429	-944	-561	-416	
51500	-4154	-4013	-2569	-1648	-1080	-617	-459	
169525	-2079	-4045	-2742	-1771	-1127	-644	-479	
Reps		Position 2						
0	-1800	-1492	-1125	-754	-561	-353	-288	
500	-2121	-2073	-1452	-955	-687	-416	-328	
1000	-2215	-2293	-1579	-1031	-722	-446	-348	
2500	-2542	-2674	-1782	-1148	-795	-478	-375	
5000	-2812	-3078	-1993	-1274	-880	-527	-395	
10000	-3176	-3542	-2249	-1415	-961	-565	-431	
25000	-3468	-3986	-2566	-1595	-1062	-612	-461	
51500	-4709	-4810	-2980	-1834	-1263	-692	-504	
169525	-1458	-4878	-3194	-1996	-1273	-722	-522	
Reps		Position 3						
0	-1506	-1294	-929	-579	-467	-295	-253	
500	-1887	-1876	-1250	-786	-594	-373	-304	
1000	-2060	-2106	-1366	-861	-637	-392	-316	
2500	-2299	-2451	-1546	-964	-707	-431	-349	
5000	-2596	-2833	-1748	-1072	-765	-459	-362	
10000	-2917	-3281	-1952	-1201	-843	-490	-396	
25000	-3152	-3704	-2260	-1340	-929	-532	-410	
51500	-4351	-4485	-2624	-1542	-1048	-604	-453	
169525	-1756	-4517	-2798	-1671	-1108	-630	-465	

Table E-13-2. Maximum peak longitudinal displacements (A) in subgrade (TS702C6)

702C6		Longitudinal Strain (μm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	-304	-210	-141	-121	-80	-46	-27	
500	-95	-252	-158	-122	-68	-47	-100	
1000	127	-298	-170	-135	-88	-53	-14	
2500	78	-366	-199	-150	-74	-62	-167	
5000	-159	-426	-231	-150	-85	-54	-36	
10000	-338	-519	-257	-177	-104	-51	-33	
25000	-9326	-630	-302	-189	-124	-62	-44	
51500	-639	-814	-389	-213	-393479	-78	-70	
169525	-673	-903	-471	-251	-5627	-80	-80	
Reps		Position 2						
0	-146	-221	-136	-69	-66	-39	-46	
500	-198	-295	-161	-103	-82	-27	-41	
1000	-135	-317	-164	-105	-71	-30	-28	
2500	-164	-390	-210	-110	-76	-27	-44	
5000	-302	-472	-247	-136	-98	-37	-16	
10000	-359	-589	-283	-159	-101	-37	-26	
25000	-198	-705	-374	-179	-118	-31	-14	
51500	-2203	-934	-459	-235	-794588	-46	-46	
169525	-603	-1041	-549	-272	-10951	-56	-28	
Reps		Position 3						
0	-106	-188	-108	-68	-51	-27	-41	
500	-117	-252	-147	-78	-58	-24	-34	
1000	-166	-290	-160	-87	-67	-21	-30	
2500	-196	-352	-185	-101	-73	-25	-38	
5000	-186	-443	-248	-122	-69	-29	-21	
10000	-279	-543	-256	-138	-87	-26	-30	
25000	-237	-635	-314	-152	-94	-25	-22	
51500	-5064	-837	-442	-191	-9222	-42	-40	
169525	-5952	-913	-492	-246	-6190	-42	-28	

Table E-13-3. Maximum peak longitudinal displacements (B) in subgrade (TS702C6)

702C6		Longitudinal Strain (μm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	911	507	300	254	152	103	157	
500	1171	709	363	315	188	133	61	
1000	2131	799	426	334	178	111	145	
2500	1765	986	511	385	206	128	20	
5000	1917	1176	556	424	235	161	136	
10000	1717	1430	666	502	252	164	130	
25000	1891	1726	789	570	274	166	145	
51500	1486	2259	1083	710	287369	191	121	
169525	4228	2349	1208	767	6306	207	120	
Reps		Position 2						
0	841	515	9764	239	158	117	131	
500	2835	753	5061	360	191	126	82	
1000	1224	863	1816	365	209	134	128	
2500	1420	1094	560	423	222	136	79	
5000	2001	1330	646	482	250	161	150	
10000	1752	1629	6923	538	278	169	151	
25000	2358	1974	943	644	287	191	160	
51500	1285	2572	1233	782	371754	230	121	
169525	4793	2729	2364	880	10176	234	139	
Reps		Position 3						
0	686	390	358	216	152	90	160	
500	1544	595	4430	301	155	110	90	
1000	1043	728	17581	312	174	114	105	
2500	1164	894	705	362	201	124	49	
5000	1453	1149	1172	418	231	140	96	
10000	1530	1400	838	476	236	152	115	
25000	1869	1703	1188	543	253	155	119	
51500	1985	2227	3648	682	3010	182	115	
169525	4887	2341	1210	758	8510	197	120	

Table E-13-4. Maximum peak longitudinal displacements (C) in subgrade (TS702C6)

702C6		Longitudinal Strain (μm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0	-232	-167	-1293	-121	-80	-46	4	
500	-28	-198	-5445	-122	-68	-47	-219	
1000	371	-210	-8083	-135	-88	-53	-3	
2500	205	-256	-5197	-150	-74	-62	-172	
5000	151	-283	-1433	-150	-85	-54	-53	
10000	-183	-342	-734	-177	-104	-51	-33	
25000	-170	-374	-1442	-189	-124	-62	-44	
51500	-419	-447	-354	-213	-176706	-78	-70	
169525	-672	-469	-3400	-251	-5424	-80	-80	
Reps		Position 2						
0	-216	-172	-253	-122	-85	-71	-24	
500	458	-200	-708	-128	-104	-54	-70	
1000	-73	-245	-6840	-155	-79	-72	-12	
2500	-97	-274	-4943	-145	-91	-63	-83	
5000	13	-328	-2445	-176	-102	-61	15	
10000	-197	-392	-503	-202	-105	-71	-19	
25000	28	-431	-2104	-203	-127	-68	-20	
51500	-2373	-530	-379	-242	-794582	-76	-77	
169525	-620	-546	-405	-277	-9345	-92	-63	
Reps		Position 3						
0	-254	-172	-6658	-98	-81	-46	51	
500	319	-174	-136	-128	-65	-48	-60	
1000	-203	-200	-2073	-117	-87	-50	-34	
2500	-183	-238	-5232	-124	-86	-59	-88	
5000	-143	-285	-1433	-142	-98	-59	-55	
10000	-192	-326	-219	-164	-87	-56	-67	
25000	-67	-368	-2544	-174	-98	-65	-36	
51500	-7086	-457	-334	-199	-15199	-76	-86	
169525	-386	-465	-4780	-217	-7456	-72	-73	

Table E-13-5. Maximum peak transverse displacements in subgrade (TS702C6)

702C6		Transverse Strain (μm)						
Depth (mm)		152	318	457	610	762	902	1041
Reps		Position 1						
0		358	128	25284	160	93	74	111
500		962	272	20528	161	83	74	60
1000		278	318	7624	171	108	90	63
2500		315	405	7618	171	112	98	52
5000		371	481	9428	186	107	112	59
10000		530	569	6653	220	122	112	74
25000		488	670	12088	232	133	117	85
51500		483	837	9577	271	83	127	74
169525		501	807	5637	280	138	132	89
Reps		Position 2						
0		255	241	20584	223	138	100	77
500		316	431	22291	253	150	109	126
1000		208	509	20485	273	144	107	97
2500		245	589	7238	295	160	122	99
5000		752	694	11614	307	170	126	92
10000		393	811	7182	341	185	133	72
25000		451	952	5857	392	200	144	113
51500		33	1132	831	442	200	155	105
169525		2741	1151	7558	471	232	163	101
Reps		Position 3						
0		526	185	12433	205	141	74	69
500		534	427	13790	245	153	84	96
1000		516	446	18305	282	155	97	70
2500		555	586	9193	308	171	100	79
5000		515	727	6492	325	180	106	87
10000		673	859	11814	376	194	118	89
25000		752	986	6420	402	216	120	123
51500		578	1149	69645	461	236	133	103
169525		1209	1228	6178	489	242	141	103