REPORT NUMBER
QI1101885

America

PREPARED FOR
HANOVER SPECIALTIES
901 MOTOR PARKWAY
HAUPPAUGE, NY 11788

ATTENTION
STEVE NOSKIN

REPORT DATE
MARCH 9, 2011

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REPORTED / APPROVED BY:

TÜV SÜD America, Inc.

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CERTIFICATION TEST PROGRAMS

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CERTIFICATION TEST PROGRAMS

PURPOSE

The purpose of this test report is to present the test results obtained during the performance of a test program. This report includes a brief description of the samples presented for test, a list of the documents presented as test instructions, and a summary of the testing performed and the results obtained. Applicable requirements and conclusions are based on the criteria provided by our client, or as specified in the reference document(s).

WORK REQUESTED / REFERENCE DOCUMENT(s)

ASTM F1951-09b, Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

TEST SEQUENCE

1. Wheelchair work measurement method – straight propulsion with no material on a flat surface with a grade of 7.1%.
2. Wheelchair work measurement method – straight propulsion with material and no grade.
3. Wheelchair work measurement method – turning 90° with no material on a flat surface with a grade of 7.1%.
4. Wheelchair work measurement method – turning 90° with material and no grade.

Testing was performed on March 9, 2011.

SAMPLE DESCRIPTION

Hanover Specialties submitted two, 4’8” X 3’9” X 3.5” thick Poured in Place surfacing samples identified by Hanover Specialties as 3.5” Vitriturf.

TESTING PERFORMED

ACCESSIBILITY OF SURFACE SYSTEM

Procedure

Sample material, 3.5" Vitriturf was tested, propelling the wheelchair with four even propulsion strokes, per trial, across the material 6.56 feet, within eight seconds. This process was repeated five times for each test, straight and 90° turn.

Per ASTM F1951-09b, section 5.1, no additional compaction or modification occurred between propulsion trials.

Results

The average work force over one foot, in pound force-inch values, for straight propulsion and for turning with material, should be less than the average work per foot values for straight and turning on a flat surface with a grade of 7.1%.

Conclusion

The average work force over one foot, in pound force-inch values, measured lower when propelling the wheelchair over the 3.5" Vitriturf material, than when propelling the wheelchair over a flat surface with a grade of 7.1%. The material met the requirements of ASTM F1951-09b.

SAMPLE DISPOSITION

The sample material will be retained by TÜV SÜD America, Inc., for fifteen (15) days, then disposed of at the discretion of TÜV SÜD America, Inc., unless otherwise requested.

TEST EQUIPMENT

TÜV SÜD America, Inc.'s calibration system meets the requirements of ISO 17025:2005.

TÜV ID	Description	Manufacturer	Model	Calibration Due
PLYP00043	Signal Conditioner	Daytronics	3370	07/11
PLYP00047	Reaction Torque Sensor	Lebow	2110220500	07/11
PLYP00015	Digital Protractor	Mitutoyo	Pro 360	07/11
N/A	Wheelchair	Quickie	Q2	NCR
N/A	Accessibility Fixture	DTL	N/A	NCR
PLYP00044	Scale	Acculab	CS-110P	07/11

NCR – No Calibration Required

REMARKS

The wheelchair rider weight was 174 pounds, which combined with the wheelchair for a total of 221.7 pounds.

Material was tested as received. Material moisture content was not measured.

APPENDICES: Appendix A: Test Data

Material Name / Description: 3.5 inch Vitriturf Poured in Place material

Run #	No Material (work per foot) (lbf·in)	With Material (work per foot) (lbf·in)
Straight Run 1	109.04	23.10
Straight Run 2	105.97	15.71
Straight Run 3	106.75	18.51
Straight Run 4	107.06	14.49
Straight Run 5	108.46	16.62
Average	**107.42**	**16.95**

Turn Run 1	169.50	44.73
Turn Run 2	158.43	45.39
Turn Run 3	155.73	46.55
Turn Run 4	163.55	46.39
Turn Run 5	158.12	59.16
Average	**160.03**	**46.11**