Zero Soil Loss. 100% Confidence.
North American Green’s HydraMatriCx™ Series is Changing the Industry.

Summary of AASHTO-NTPEP Testing
North American Green’s high-performance HydraCX® Extreme Slope Matrix™ and HydraCM™ Steep Slope Matrix™ posted the best results ever published to date in large-scale slope protection by the American Association of State Highway Transportation Official’s National Transportation Product Evaluation Program (AASHTO-NTPEP).

The product series was tested under grueling ASTM D6459 large-scale slope testing protocol, originally designed for rolled erosion control products (RECPs) and modified for use with hydraulic erosion control products (HECPs). HydraCX® Extreme Slope Matrix™ demonstrated an unprecedented 100% soil protection and HydraCM™ Steep Slope Matrix™ registered an outstanding 99.7% effectiveness in reducing soil erosion.

Generally, the large-scale slope tests report average soil loss from product test plots and compare the results to the average soil loss from bare soil control plots. From these soil loss values, a Cover-factor (or C-factor) is determined. The C-factor, which is a direct representation of the products’ erosion control effectiveness, is a widely accepted performance factor employed in the U. S. Department of Agriculture’s (USDA) Revised Universal Soil Loss Equation (RUSLE).

Each 40 ft x 8 ft plot initially consists of an underlying soil veneer with a minimum thickness of 12 in. after it is placed and compacted, which is verified to be 90% of the Proctor Standard density. Both of the HydraMatriCx products were applied to the 3H:1V slope gradient at a target application rate of 3,500 lb/acre. Each product received three replications of 20-minute target intensities of 2, 4 and 6 inches per hour with all runoff being collected. The average Rainfall factor, or “R” Factor, that ASTM D6459 protocol specifies as an acceptable target is 231. Both the HydraCM and HydraCX® products surpassed that target by almost 10% and 20% respectively. The average R Factor for the HydraCX® product was 277 and the HydraCM product was 252.

Other HECPs tested in the NTPEP large-scale program have experienced noticeable soil loss,* yet remarkably, HydraCX® Extreme Slope Matrix registered no measureable soil loss or erosion during testing. HydraCM Steep Slope Matrix also posted outstanding results, with two of its three plots experiencing no measurable erosion, while the third plot experienced only minimal localized soil loss.

All HydraCX® plots resulted in 0.00 lbs soil loss/plot.

According to the NTPEP report, “Since no measurable soil loss was found, a lowest practical C-Factor value of 0.001 was assigned.” In other terms the HydraCX® HECP was assigned a percent effectiveness value of 99.9% effectiveness, after delivering perfect erosion prevention results. The HydraCM HECP also tested at near perfection with a C-factor of 0.003, or 99.7% effectiveness, with only one test plot showing minor soil loss.

With NTPEP’s large-scale slope test results, a specifier can design with North American Green’s HydraMatriCx Series high-performance mulches with confidence. The test data supports true engineering design by facilitating the use of the RUSLE equation, a well-accepted design methodology.

*See full test results at www.ntpep.org.
Ultimate Assurance Guarantee
To further increase specifiers’ confidence, North American Green is extending its Ultimate Assurance Guarantee to cover HydraCX® Extreme Slope Matrix™ on all registered projects. North American Green guarantees that HydraCX® Extreme Slope Matrix will deliver on performance when used in applications designed and specified by a qualified engineer or North American Green technical representative prior to installation.

AASHTO-NTPEP Testing Quick Facts

• AASHTO-NTPEP is actual independent third-party testing with product samples randomly taken by AASHTO officials.

• NTPEP utilizes ASTM D6459 large-scale slope test protocol designed for rolled erosion control products (RECPs) and has adapted to hydraulic erosion control products (HECPs).

• Test conditions are severe, with rainfall intensities up to 6 in./hr. It is not uncommon for products, especially HECPs, to experience "catastrophic failure"; total loss of mulch and substantial erosion.

• The HydraCX® HECP proved 100% control of soil loss, an unprecedented level of erosion control for both RECPs and HECPs in NTPEP testing. Based on these test results and years of field applications, the HydraCX® HECP can be used confidently in place of double-net erosion control blankets (ECBs) in most slope protection applications.

• The HydraCM HECP demonstrated an exceptional 99.7% control of soil loss, a very close second to the HydraCX® HECP. Based on these test results and years of field applications, HydraCM hydromulch can be used in place of single-net ECBs in most slope protection applications.

• The near perfect erosion control performance capabilities of both products make them ideal for use in meeting new, more stringent National Pollutant Discharge Elimination System (NPDES) requirements for turbidity reduction in runoff from construction sites.

• Though both products provided very similar high performance erosion protection under the ASTM D6459 protocol, the HydraCX® HECP contains a slightly different blend of fibers and greater quantities of proprietary polymers to extend its top-notch performance beyond HydraCM on longer, steeper slope protection applications.

• The NTPEP test results on HydraCX® and HydraCM HECPs confirm other large-scale slope tests North American Green (NAG) has already conducted at Transportation Research Institute (TRI), Texas Transportation Institute (TTI) and San Diego State University (SDSU).

• With such conclusive test data on the erosion control performance of both products, engineers can design with confidence in using the C-factor recommended by NAG for each product.

• NAG guarantees the performance of the HydraCX® HECP to further boost confidence in using HydraCX® HECP in place of other high performance erosion control materials, including double-net blankets.

A North American Green HECP for Every Slope
North American Green’s full line of hydraulic erosion control products has you covered for slopes from mild to extreme. Visit www.nagreen.com or call (800) 772-2040 for complete specifications of our GeoSkin® Straw & Cotton Plant Material Hydromulch Series ranging from flat slopes to 3:1 and our HydraMatriCx™ Series ranging from 0.5:1 to 1:1.

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