NDS, Inc. April 2015

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Product Guide Specification

Specifier Notes: This product guide specification is written in Construction Specifications Institute (CSI) 3-Part Format in accordance with *The CSI Construction Specifications Practice Guide,* including *MasterFormat, SectionFormat,* and *PageFormat.*

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with Division 1, other specification sections, and the Drawings. Delete all Specifier Notes after editing this section.

Section numbers and titles are based on *MasterFormat 2014 Update.*

1. 32 94 13

LANDSCAPE EDGING

Specifier Notes: This section covers NDS, Inc. root barrier sheet material. Consult NDS, Inc. for assistance in editing this section for the specific application.

* 1. GENERAL
		1. SECTION INCLUDES
			1. Root barrier sheet material.
		2. RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as necessary. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

* + - 1. Section 32 91 00 – Planting Preparation.
			2. Section 32 93 00 – Plants.
		1. REFERENCE STANDARDS

Specifier Notes: List reference standards used elsewhere in this section, complete with designations and titles.

* + - 1. ASTM D 638 – Standard Test Method for Tensile Properties of Plastics.
			2. ASTM D 1004 – Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
			3. ASTM D 4833 / D 4833M – Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
			4. ASTM D 5617 – Standard Test Method for Multi-Axial Tension Test for Geosynthetics.
		1. SUBMITTALS

Specifier Notes: Edit submittal requirements as necessary. Delete submittals not required.

* + - 1. Comply with Division 1.
			2. Product Data: Submit manufacturer’s product data, including installation instructions.
			3. Samples: Submit manufacturer’s 12-inch by 12-inch sample of root barrier sheet material.
			4. Manufacturer’s Certification: Submit manufacturer’s certification that materials comply with specified requirements and are suitable for intended application.
			5. Sustainable Design Submittals: Submit manufacturer’s sustainable design submittals for root barrier sheet material.
				1. Recycled Content: Certify percentages of post-consumer and pre-consumer recycled content.
				2. Regional Materials: Certify distance between manufacturer and Project, in miles.
			6. Manufacturer’s Project References: Submit manufacturer’s list of successfully completed root barrier sheet material projects, including project name and location, name of architect, and type and quantity of root barrier sheet material furnished.
			7. Warranty Documentation: Submit manufacturer’s standard warranty.
		1. QUALITY ASSURANCE
			1. Manufacturer’s Qualifications: Manufacturer regularly engaged, for a minimum of 10 years, in the manufacturing of root barrier sheet material of similar type to that specified.
		2. DELIVERY, STORAGE, AND HANDLING
			1. Delivery Requirements: Deliver materials to site in manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
			2. Storage and Handling Requirements:
				1. Store and handle materials in accordance with manufacturer’s instructions.
				2. Keep materials in manufacturer’s original, unopened containers and packaging until installation.
				3. Store materials in clean areas, protected from exposure to harmful weather conditions.
				4. Store materials out of direct sunlight.
				5. Protect materials during storage, handling, and installation to prevent damage.
		3. AMBIENT CONDITIONS
			1. During Cold Weather:
				1. Do not use frozen materials.
				2. Do not use materials mixed or coated with ice or frost.
				3. Do not build on frozen Work.
			2. During Wet Weather: Do not build on wet, saturated, or muddy subgrade.
	1. PRODUCTS
		1. MANUFACTURERS
			1. Manufacturer: NDS, Inc., 851 North Harvard Avenue, Lindsay, California 93247. Toll Free 800-726-1994. Phone 559-562-9888. Toll Free Fax 800-726-1998. Fax 559-562-4488. Website [www.ndspro.com](http://www.ndspro.com). Email nds@ndspro.com.

Specifier Notes: Specify if substitutions will be permitted.

* + - 1. Substitutions: [Not permitted] [Comply with Division 1].
		1. MATERIALS

Specifier Notes: Specify part number of root barrier sheet material.

* + - 1. Root Barrier Sheet Material: Root barrier sheet material, part number [SM-1220] [SM-1820] [SM-2420] [SM-3620].
				1. Material: Injection-molded, 1-piece polyethylene with UV inhibitors.

Recycled Content: 50 percent.

* + - * 1. Sheet Size:

Specifier Notes: Specify depth of root barrier sheet material.

Depth: [12 inches] [18 inches] [24 inches] [36 inches].

Length: 20 feet.

Wall Thickness: 0.040 inch to 0.060 inch.

* + - * 1. Reinforcing Ribs:

Vertical, flared, molded, 90-degree, root-deflecting ribs protruding 1/2 inch from wall.

Spacing: 6 inches to 8 inches on center.

* + - * 1. Sheet Ends: Root-impervious, molded end using staples or sealant to bind to next sheet.
				2. Color: Black.
			1. Physical Properties, 0.040-Inch Wall Thickness:
				1. Break Strength, ASTM D 638:

Machine Direction: 4,238 psi.

Transverse Direction: 3,278 psi.

* + - * 1. Break Elongation, ASTM D 638:

Machine Direction: 725 percent.

Transverse Direction: 607 percent.

* + - * 1. Puncture Strength, ASTM D 4833: 111 lbs.
				2. Tear Strength, ASTM D 1004:

Machine Direction: 46 lbs.

Transverse Direction: 42 lbs.

* + - * 1. Hydrostatic Resistance: 403 psi.
				2. Multi-Axial Tensile Properties, ASTM D 5617, Procedure A, Centerpoint Deflection Versus Pressure:

Maximum Stress: 1,954 psi.

Elongation at Rupture: 31.1 percent.

* + 1. ACCESSORIES
			1. Tape:
				1. Use to seal ends of sheets.
				2. Dual-sided, solvent-based tape.
				3. Tuff Industries, Inc.
	1. EXECUTION
		1. EXAMINATION
			1. Examine areas to receive root barrier sheet material.
			2. Notify Architect of conditions that would adversely affect installation or subsequent use.
			3. Do not begin installation until unacceptable conditions are corrected.
		2. INSTALLATION
			1. Install root barrier sheet material in accordance with manufacturer’s instructions at locations indicated on the Drawings.
			2. Install root barrier sheet material plumb.
			3. Linear/Root Pruning Applications: Place root barrier sheet material directly adjacent to hardscape being protected.
			4. Surround Applications: Place root barrier sheet material around root ball, at sufficient distance to allow proper backfill.
			5. Do not allow roots to circle or grow over top of root barrier sheet material.
		3. PROTECTION
			1. Protect Work of this Section from damage during construction.

END OF SECTION