NORTH COUNTRY SLATE
STANDARD

MUSEUM OF THE CITY OF NEW YORK

Since it first opened its doors to the public in 1923, The Museum of the City of New York has embraced the past, present, and future of the Big Apple, celebrating the city's cultural diversity. The Museum is dedicated to fostering an understanding of New York's evolution from its origins as a settlement of a few hundred Europeans, Africans, and Native Americans to its present status as one of the world's largest and most important urban centers.

In 1932, the museum moved to its current location at 1220 Fifth Avenue, a building with stately columns and a towering slate roof. Over 50 years later, in the 1980s, the legacy had continued but the roof was sagging seriously under the burden. Presto – a new one was installed! But unlike the Museum itself, this new slate roof did not weather the years well at all. The surface expanded and contracted due to changing weather conditions, the quality of the slate was poor and widespread delamination began rapidly, slates dropping with regularity.

In 2003, a replacement slate roof for the Museum was detailed by Lee Harris Pomeroy Architects, one designed to endure the test of time. After referring to original specifications and historic photographs of the building, plans proceeded to develop a historically appropriate response to the roof's rehabilitation.
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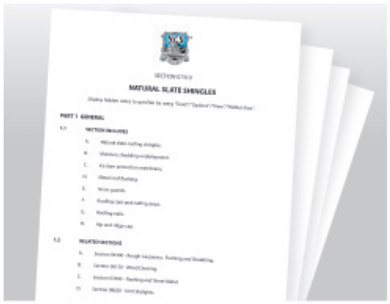
UPSURGE IN DEMAND
causes some shortages of quality slate

After several years of softer demand, 2005 is turning out to be a banner year for the slate roofing industry. Industry indications suggest a double-digit increase over 2004, and the trend is expected to continue.

Insiders attribute the turnaround to escalating housing prices and the movement of homeowners towards higher-quality building materials and features, in an effort to capitalize on what is - for many – one of the biggest investments they enjoy. There has also been a significant resurgence in the passion for restoring historical buildings across the board. Some North American quarries have not been able to keep up with demand, and the consequence of this development has been a more extended delivery cycle for certain colors of material.

An off-shoot of this situation is that many distributors, contractors and even homeowners lacking reliable sources of supply have resorted to buying questionable materials from off-shore suppliers having little or no knowledge of our industry, and who lack the financial depth or will to stand behind what they sell.



"With our commitment to maintaining inventory, we are always prepared to meet the needs of our customers by acting as a supply buffer between the production capabilities of the quarries and the demands of the construction schedule," said a North Country Slate representative. "However, given the rise in demand for certain slates recently, it's important to begin talking to us as early in the planning stages as possible. "The increased demand primarily affects the current general availability of Unfading Grey and darker shades of Unfading Green. Also affected, in many colors, is the availability of smaller (14" and 16") slates. Let us know if we can be of any assistance in meeting any shortfalls in your roofing slate requirements.

NORTH COUNTRY SLATE
LANDS ON B&O
RAILROAD, COLLECTS AWARD

No, it's not a Monopoly game. In fact, there really is a B & O Railroad. The Baltimore & Ohio Railroad operated from 1827 until 1984, when it was incorporated into a larger rail transportation system. The B & O Railroad Museum celebrates its history with an extensive collection of railroad equipment and replicas.

A 46,000 square foot roundhouse in Baltimore, Maryland, the Museum nearly became history itself in 2003, when a storm dumped 28 inches of snow on the area, collapsing the roof. North Country Slate provided the material for the reconstruction, with 550 squares of " Unfading Black slate.

The slate used on the project was unique: 22 inches by 10 inches and 22 inches by 14 inches. "It's a hard size to get without curves," said Dean Jagusch, Project Manager for Roofers Inc., the contractor, "but North Country Slate did it."

SMG Architects subsequently nominated the B & O Museum for a Historic Preservation Award, a program through which Baltimore Heritage, a local foundation, annually recognizes the most distinguished historic preservation projects in Baltimore. The award was accepted by North Country Slate General Manager David Large at a ceremony on June 16, 2005.

"It is a great honor to be recognized in this way, and we are gratified to have played a role in such a landmark undertaking," said Large. "It's what we love to do in the normal course of a business day, and the preservation award is icing on the cake." The rest is – once again - history.

in this issue

North Country Slate®

ASTM DIGS DEEPER

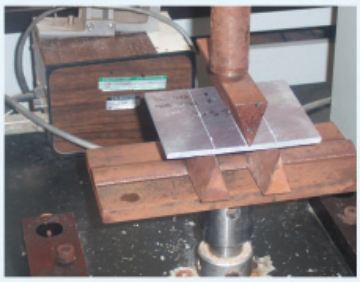
FOR MORE RELIABLE SLATE STANDARDS

Let's discuss visual: testing facility if possible, ASTM logo if approved.

With a view to updating standards that have been around since the 1930s, ASTM International is currently reviewing its testing methods as they apply to roofing slate. As they come into force, these changes will be critical to the specification process, and warrant careful consideration by industry professionals when planning a project.

For those with engineering degrees, the previous ASTM C-120 test standard for roofing slate called for a 9000 psi modulus of rupture (MOR). The test method limited testing to slates of 3/16 – _" thickness only. The new approved standard calls for a minimum breaking load of 575 pounds force, rather than 9000 psi MOR, for slates of 3/16 – _" thickness. It also increases the sample size from a minimum of 6 specimens to a minimum of ten specimens in order to average the test data over a broader range.

For those without an engineering degree, the new standard nods its head at an apparent penalty the MOR testing method had inadvertently imposed on thicker slates. In some cases under the previous standard, thinner slates would appear to have been more resistant to breaking under light foot traffic, accidental impact and wind uplift than thicker slates, contradicting both experience in the field and common sense.



Additional changes, currently under review but not approved by ASTM, include modifications to accommodate the recent practice by some quarries to produce roofing slates of "random-grain", rather than "on grain" with the grain running the length of the slate. While the latter exhibits hardier characteristics, today many quarries produce the former, with an eye to economies. The proposal under review would recognize this practice, but may require that the material be supplied in a heavier thickness to meet the 575 pounds force breaking load.

Further, changes are proposed to clarify the methods of measurement, the equipment used for specimen preparation, test procedures, and the requirements for reporting data. The proposal also includes changes to allow for the testing of any roofing slate, equal to or greater than, 3/16" thick.

It is hoped that the net result of these changes will be a more realistic, effective standard that architects, consultants, specifiers, contractors and building owners can use to effectively evaluate the performance profile of different slates they may be considering.

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Meet the Team

From left: Sheena Owen, John Neil, Heather Thomas, Chris Large, Patrick Garcia and Dave Large

MUSEUM OF THE CITY OF NEW YORK

cont'd from cover...

The blueprints called for 14,000 square feet of multi-colored slates, arranged to hearken back to the original 1932 design. Supporting information was assembled and submitted to the New York City Landmarks Preservation Commission, where it was quickly approved.

According to roofing contractor Nicholson & Galloway, the wood deck was replaced, and the entire surface was protected with a water shield, to prevent a repeat of earlier problems.

The slates were installed using a blend of three colors, in a total of fifteen different combinations. "The Unfading Green, Unfading Mottled Purple and Semi-Weather Green slates provided by North Country Slate were a match to the original specified slate materials," said Richard Foley of Lee Harris Pomeroy. Copper coated gutters were added, along with brass snow guards.

TO DELIVER THE BEST, START WITH THE BEST

The quality and character of slate are such that it is increasingly becoming the roofing material of choice for architects, home-owners and institutional managers alike. In order to maintain high standards, North Country Slate acquires its material from the finest quarries anywhere. Our North Country Unfading Black is a case in point.

Sourced by North Country Slate from the Glendyne Quarry in St. Marc du Lac Long, Quebec, Canada, this smooth-textured blue/black slate is easy to cut and has a consistent color with subtle vertical shade markings. Its luster has earned the admiration of contractors and building owners around the world.

The Glendyne Quarry is the largest roofing-slate producing facility in North America and one of the largest in the world. The first production from this vein of slate occurred in the early 1900s, and it has been turning heads ever since.
North Country Unfading Black is a premium quality roofing slate offering an elegant and lasting roof for both new construction and restoration projects. Created 500 million years ago, North Country Unfading Black slate meets or exceeds ASTM requirements as an S-1 rated roofing slate. No wonder – *it had great beginnings!*

DESIGN Matters

Bringing The Vision To Life.

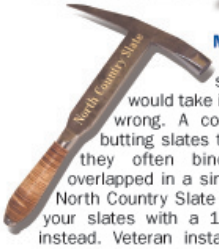
All too often, the expectations of a building owner, architect, general contractor and roofing contractor can vary widely on the installation practices employed and the finished appearance of a completed slate roof. Bringing the vision of a slate roof from the drawing board to reality is a simple process, when attention is paid to detail. It can become a difficult and expensive exercise, however, when a lack of care in the little things is only noted after the roof is substantially installed or completed. The reworking of an installed slate roof is a very expensive proposition.

In most cases, the differences in expectations and subsequent disappointment of various parties, can be avoided with the use of a concise material & installation specification. Unfortunately, many natural roofing slate specifications in use today are decades old, and do not specifically address the fine details of installation and materials. To cover installation methods, these specifications often refer to all of our generally-accepted industry publications, without taking into account that many of them offer conflicting points of view. The fact is there is more than one way to install a slate roof. Each way can be right, but the one employed may not meet the expectations of all parties to a project.

It is important to have a strong specification, clearly stating expected installation practices and material requirements in order to avoid these potential project conflicts. Pay particular attention to joint spacing, slate grading, certificate of country of origin and substitutions. All requirements should be made clear to contractors, so they can be taken into account when discussing, bidding and installing slate on the job. Having everybody on the same page is important - a good specification will keep them there.

A detailed roofing slate specification is available free at www.NorthCountrySlate.com under "Tech Support". For an even more convenient version, click on the 'SpecWizard' link.

INSTALLATION Tips



Many contractors butt slates together as a standard practice and would take issue that their practice is wrong. A common occurrence when butting slates together, however, is that they often bind - or even become overlapped in a single course. On your next North Country Slate roofing project, try laying your slates with a 1/8" - 3/16" joint width instead. Veteran installers frequently use the pointed tip of their slate hammer to gauge this distance, and slide the next slate across to the hammer tip to achieve this spacing.

The gap allows the roof to shed debris and dry better than when slates are butted together. Even more importantly, the spacing improves the shadow lines and enhances the overall appearance of the roof.

By employing this installation technique, you can make the most of what North Country natural slate has to offer. Check the 'Tech Support' section of our web site for a downloadable CSI 3-part specification that will help bring this practice to your project.

THE SLATE FACTS

Slate is formed from clay silt that settles on the beds of ancient seas and riverbeds. The clay is compressed for millions of years until it hardens into thin layers that can be easily broken apart – one reason why it's so prized as a roofing material. Slate is a combination of 30-45 % quartz and 38-40 % mica. The other 20 to 40 % consists of small amounts of other rock. Slate can be anywhere from 500 to 600 million years old.

10 THINGS TO LOOK FOR WHEN CHOOSING SLATE

1. Reliable slate supplier?
2. Capable roofer?
3. Unfading or weathering slate?
4. Oxidizable iron pyrite?
5. Grading for thickness?
6. Over/Under-nailing?
7. Joint spacing?
8. Headlap?
9. Slates cut less than 6 inches wide?
10. Minimum side lap of 3 inches?

North Country Slate®

message from the Editor

With our ongoing efforts to stay in touch with our customers and suppliers, consultants and specifiers, we are launching this first edition of the North Country Slate-Standard. I hope all our readers are enjoying a healthy and prosperous 2005. The year is proving to be a banner year for North Country Slate and I would like to thank our customers and - equally important - our quarry suppliers, for their contribution to our success. With increased market demand for high quality natural roofing slate, North Country has placed higher demands and expectations on our traditional suppliers and sought out other capable producers who are assisting us to meet the quality and volume demands expected by our customers. To both customers and suppliers - please keep up the good work!

If you are reading this, it probably means you have read at least some of the other articles in the newsletter. I hope you have found them interesting, amusing, thought-provoking or controversial. I look forward to your comments, opinions or suggestions.

Regards
Dave Large

PROJECTS OF NOTE

Project	Product
Residence - Vancouver, BC	Unfading Green
Residence - Calgary, AB	Unfading Green
	Unfading Mottled Purple
	Semi-Weathering Green
	Semi-Weathering Grey
	Semi-Weathering Grey/Black
University of Saskatchewan - Saskatoon, SK	Semi-Weathering Green
Hamilton County Courthouse - Aurora, NE	Unfading Black
University of St. Mary of the Lake - Mundelein, IL	Unfading Black
Metra Train Station - Oak Lawn, IL	Unfading Black
Residence - Toronto, ON	Unfading Green
	Semi-Weathering Green
	Semi-Weathering Purple
Residence - Montreal, QC	Unfading Black
Penobscot Theatre - Bangor, ME	Unfading Black
Harvard Business School - Boston, MA	Unfading Black
Bryn Mawr College - Bryn Mawr, PA	Unfading Black
Museum of the City of New York - New York, NY	Unfading Green
	Unfading Mottled Purple
	Semi-Weathering Green
Seton Hall University - Orange, NJ	Unfading Grey
Quantico Marine Base - Quantico, VA	Unfading Black
Residence - Raleigh, NC	Unfading Green
Residence - Jupiter Island, FL	Unfading Black
Bank of Kirksville - LaPlata, MO	Semi-Weathering Purple
Pulaski County Courthouse - Little Rock, AR	Unfading Black
Dewitt County Courthouse - Cuero, TX	Unfading Black
Residence - Beverley Hills, CA	Unfading Green
Residence - Palo Alto, CA	Unfading Black

NORTH COUNTRY PRODUCTS

Unfading Black

North Country Unfading Black meets or exceeds the requirements of an S-1 rated roofing slate under ASTM C-406. This fine material is available in smooth textured 3/16", 1/4" and 3/8" nominal thickness as well as medium textured 1/4" nominal thickness. North Country Unfading Black smooth textured slates are produced to the most stringent European fabricating standards, standards that are well beyond those of the North American roofing slate market. North Country Unfading Black medium textured slates are produced as 'fall out' from the production of smooth textured slates and exhibit slight variations in texture, veining, tear back and thickness, providing more definition in the appearance of the roof. These variations are well within the standards applied to the North American market and medium textured slates are available at a significant savings. There is no compromise to material quality.

North Country Unfading Black material arrives on site in fully enclosed pallets with virtually zero breakage reported by consistent users. Slates are machine punched, not drilled, and of extremely uniform face dimension tolerances. Installers remark on the ease with which they can be cut and trimmed.

North Country Unfading Black roofing slate has been specified and installed on projects where the benchmark was Monson, Peach Bottom (both no longer available new) or the traditionally high-quality unfading black slates of Virginia. Roofing slates from these three sources were arguably the finest ever produced in North America, and perhaps, the world. We believe North Country Unfading Black is in good company!

"Hey – in a few hundred thousand years, it's going to be worth a fortune!"

WITH A SLATE FACE

Why did the roofer stop working after morning coffee???

So he could save the second course for lunch.

For more information on how North Country Slate can help with your next project, contact:
Dave Large
Tel: 416-724-4666
Toll-Free: 1-800-975-2835
Email: info@ncslate.com

North Country Slate®