



THE CHRIS JOHNSON NEWSLETTER

Westchester Marble ~ Latco ~ Monocibec

May 1999

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10th Anniversary Issue



When I started in this business in the mid 80's, I could never find anything to read that told me what I needed to know to perform my job. Everything was an oral tradition, like some kind of folk lore. And what did exist was in Italian (something I still haven't learned!).

As I began to uncover tid bits of information - sometimes through the school of hard knocks, but not always - it occurred to me that others of you out there might want to know these tid bits too (before they became hard knocks for you!). Such was the origins of my first newsletter in 1989.

Amazingly, the availability of information doesn't seem to have gotten any better. And while I

might have had an article in the Fall of 1991 on something that would really help you now, unless you are an incredible pack rat, you are unlikely to have back copies that far. Certainly not cross indexed and filed where you can get at them. Even I don't have that.

So I decided - partially in honor of the 10th Anniversary, but mostly to help you - to create a complete stone reference document. In this newsletter I have collected in one place all the past articles from my newsletter that are of timeless lasting value. Being a "news" publication, many of the articles become dated fast, but as you will soon find out, many were worth repeating.

I have also added some general information about stone which everyone should know. And some humor.

I really hope you find this one "a keeper". Not that I don't like being asked questions now and again, but every so often, when I get one for the millionth time, I kinda want to say, "didn't you read my newsletter?"



STONE FACTS; answers to the most basic questions . . .

WHAT IS MARBLE, LIMESTONE, TRAVERTINE, SLATE & GRANITE?

1) Limestone and Marble begin as the same material. Marble is simply changed limestone, or to use the technical term, *metamorphic limestone*.

Limestone is the result of millions of years of sea shells and bones of sea creatures settling as sediment on an ocean floor (hence it is called a sedimentary stone). The calcium in the bones & shells combines with Carbon Dioxide in the water to form Calcium Carbonate, which is the basic mineral structure of all limestone

and marble. Less than 3% of the stone is the color, which is simply other natural elements present when the stone formed (ie iron deposits give you a reddish brown).

Given enough heat and pressure, limestone will crystallize, resulting in marble. The crystal structure allows marble to take a polish, and bring out the color of the other trace elements. Limestone, not being crystallized, will not polish.

Jerusalem Stone is really a reference to a number of limestones from Israel. Westchester introduced several

to this country, including two colors; Jerusalem Gold, a soft, warm gold quarried in the region between Jerusalem and Hebron, and Ramon Grey color, a type of limestone found in the South of Israel.

2) Travertine also began as limestone, which over time, through geological shifting, has found its way deep in the Earth. The porous nature of limestone makes it a great reservoir for liquids. Aquifers, which are the enormous underground pools of water that feed our wells and water our cities, are the remnants of ice age melting, which sank below and was absorbed by limestone. Heated by the Earth's inner core, the water rises as steam and hot pressurized water, to form hot mud baths, "Old Faithful", "Mammoth Springs", and other gizers. This rising hot water, dissolves the limestone and brings with it granules from below, forming mud beds on the surface. If enough time transpires, and the mud beds cool, they will crystallize into solid stone called travertine.

3) Granite began as the liquid magma in the center of the Earth. As a result, it is a different type of stone, called *Igneous*. Due to the extreme pressure within the Earth, and the absence of atmosphere,

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granite is formed very dense with no pores. Granite is really a host of ingredients, including common minerals like feldspar, quartz and mica, and the proportions vary considerably from deposit to deposit. The major mineral component of granite is feldspar. Quartz, which is the hardest part of Granite (it ranges from 70% to 80% the density of a diamond) comprises only between 10-30% of the rock, whereas feldspar (potassium and sodium varieties) makes up 60-80%. (This contrasts dramatically with GRANIREX, which is 93% natural Quartz).

4) Slate is *metamorphic rock*, like the marble. However, instead of forming from a pre-existing limestone (like marble), slate is formed from the low-grade metamorphism of the sedimentary rock shale. Slate, like shale ("mudstone"), is a very fine-grained rock of mostly microscopic clay minerals with some microscopic quartz and calcite. Slate can also contain some of the same minerals found in granite, which make some slates iridescent and/or hard. The alteration of shale by heat and pressure produces the pronounced partings (slaty cleavage) that give slate its layered characteristics. Like limestone and marble, the color comes from trace metals. The wild colors on most Chinese and Indian slates are the result of splitting the slate along natural layers, which exposes these metals to the atmosphere, and they oxidize (rust).

WHAT IS POLISHED, HONED, FLAMED, SAWCUT AND NATURAL CLEFT?

1) Polishes on stone are a change in the surface of the stone itself, not anything applied to the surface. A polished stone is 100% stone, and nothing else.

Only crystallized stone can take a polish. Essentially, at a microscopic level, the factory is putting a facet on each crystal, much as a jeweler puts a facet on a diamond. The result is the same; a surface which allows light to refract in and out of the stone in a parallel way, which enhances the visible light and color, and gives the appearance of depth.

A polished finish does not affect the porosity of the stone.

2) Honed finishes are smooth, like a polish, but are non-reflective. This can be achieved three ways;

- using a stone which cannot polish, no matter what you do.
- grinding a stone until it is smooth, but stopping just before each crystal achieves a perfect surface.
- removing an existing polish by applying acid to corrode the surface.

Note; Stones are polished by diamond studded pads which are applied with pressure, some thick compound and water

usually to keep the stone cool. The amount of pressure, the type of pad, the grain count of the diamonds (like the grain count of sandpaper), and the liquid mediums all depend on the particular characteristics of the stone. For instance, GRANIREX must be kept very cool when polishing, or the epoxy will burn, and the color will disappear.

3) Flamed, or sometimes called thermal, is a molten surface which is the result of applying direct flame at high temperatures (a blow torch). This usually is seen in granites and some limestones. Most stones cannot withstand this treatment. GRANIREX simulates the surface, and calls it "textured".

4) Sawcut finishes are the most unfinished, since this is the surface of the stone when it is first cut, without any treatment. It is a slightly rough surface, usually with circular saw cut marks. Most tumbled marble is made from sawcut material, and if not tumbled quite enough, will still show saw marks. One rarely sees sawcut material sold directly to the consumer for interior use.

5) Natural Cleft is principally a slate finish. Following the natural layers that slate forms in, the stone is cleft or cut. It breaks along the layers creating an uneven undulating surface. Slate can also be honed, but will lose much of its color.

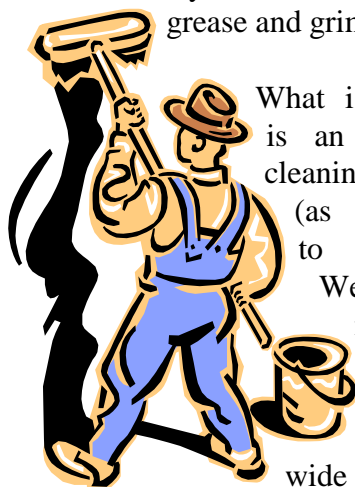


Coefficient of Friction, Cleanliness and the ADA

(Copyright article by Chris Johnson) With the adoption of the American's with Disabilities Act (ADA), floor products have been produced with very high coefficient of friction (COF) statistics. The ADA requires numbers over .6 for horizontal installations and .8 or greater for inclines (which exist in almost all commercial buildings).

While these new materials are great at grabbing your feet, they are also great at grabbing everything else (ie dirt, grease, etc). As with all regulatory changes, there is unexpected fallout. Cleaning these new materials requires special attention.

We have learned a few things from the high COF products we carry; old cleaning methods are just not enough. In commercial settings, young staff drag dirty wet mops across floors which serve only to rearrange the grease and grime.



What is needed is an abrasive cleaning method (as opposed to passive).

We recommend a deck brush (a 4 foot wide coarse brush on a long handle) and a de-

greaser in the cleaning solution to help break up hardened grease. Afterward, a clean mop, is needed to pick up the dirt and grease solution and remove it from the floor.

While this process is written into the specs of most commercial food service companies, it is rarely followed by the staff.

I believe that commercial accounts and architectural specifiers should be told the truth, before hand, about high COF products. They all perform like this. With proper cleaning, they offer a remarkable and positive solution to what can be a slippery situation!

OIL SPOTS ON BLACK GRANITE ~ by Jon Zanger

"Oil spots" or "water spots" are common in some Indian Black granites as well as some African Zimbabwe Black granites. The Italians wash the Zimbabwe Black with acid before polishing the slabs, and claim that it leeches out the spots. The Indians may do this as well, or even dye the granite. In fact, as many a fabricator has learned, often these spots will 'reappear'.

Obviously, it is best to avoid these materials to begin with. There are over 20 different quarries of "Absolute Black" in India, some

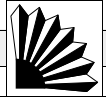
many hundreds of miles from each one another. One cannot generalize that all black Indian granites are the same. Even in Zimbabwe, where the quarries are close together, these spots are characteristic of the material from one quarry, but not from another.

We choose our Zimbabwe Black from a quarry that is not known to have this problem, and we have chosen our Indian Black from a quarry that is known to have uniform, high quality material. It is unfortunate that these

days, when many in the industry buy from a price list, these cheap but defective materials creep into the market.

For our part, we will endeavor to continue to avoid purchasing these inexpensive but problematic materials, at all costs. As any fabricator knows, after replacing a few kitchens, what was originally a bargain, is now just an expensive headache.

~ Jon Zanger,
WMG President



My marble needs to breathe!?!

(Copyright article by Chris Johnson). Yes, we've all heard of stone needing to breathe, but what does it mean? And what does it have to do with "lime pops" in Saltillo Mexican pavers?

For these and other mysteries, I thought you might benefit from my hard won experience. In this industry, knowledge is hard to come by, and never written down . . . one of the reasons I decided to start a newsletter 7 years ago. "Breathing stone" and "lime-pops" were two of the most annoying phrases I regularly heard people use, yet no-one could tell me what they meant. Now I know.

First, limestone, under certain conditions, releases Carbon Dioxide (breathing). Limestone began as shells & bones of ancient sea life (see below!) that settled on the bottoms of now dead seas. The calcium in these shell & bones mixed with the Carbon Dioxide in the water to form Calcium Carbonate, the chemical basis of limestone & marble.

Amazingly, most of the world's Carbon Dioxide is locked up in limestone & marble, and if it were all released, you & I would suffocate. Good thing our products don't breathe too much, or we wouldn't! (Mars, by contrast, has an atmosphere over 90% carbon dioxide, which may indicate what our original atmosphere was like

before primitive sea life formed . . . we may owe a lot to the little guys!)

When limestone or marble gets wet, as it always does in our business, it can release some of this carbon dioxide. How does this interest me, you ask? First, the manufacturers of sealers know all about this, and have to



Shown above, a fossil in limestone of an extinct herring-like fish from 50 million years ago, from the Green River Formation of Wyoming, USA.

allow just enough gas permeability in their sealers to let the carbon dioxide through. Another good reason why polyurethane isn't such a good idea.

An example of what can happen when the carbon dioxide gets trapped are the Saltillo paver "lime-pops". I was in Saltillo in Mexico in 1993, and in standing in the dry river beds - called arroyo's - I could look up high above the clay deposits and see limestone cliffs surrounding the valley. When the torrential rains

of the region do fall, they wash granules of limestone down into the valley, which then get mixed into the clay, and ultimately contaminate the tile. Saltillo pavers are unglazed clay, so they absorb the moisture of the setting bed, as well as when washing off grout, mopping the floor, etc. This releases the carbon dioxide from the limestone granules. When the carbon dioxide tries to expand, but is

encased in fired clay, pressure builds up - until the tile can hold it no more - hence the "pop".

Amazingly, there is evidence that the affect water has on limestone, and its metamorphic equivalent, marble, is enhanced by the use of ground water (as opposed to distilled water). That is, un-pure water containing organic amino acids, which are obtained by life found in soils or the sea. It is possible that pure distilled water would lessen this effect . . .



Can I use this Outdoors?

This has got to be one of the most frequently asked questions of anyone in the stone business.

As Winter cold gives way to Spring warmth, clients start planning outdoor projects, like porches, patios, and driveways.

Westchester Marble is responding by building an Outdoor Collection, that makes it simple for you to make the appropriate recommendations.

Almost all stones can be used outdoors - after all, that's where we found them! The main difference is often thickness. Cut any stone thick enough, and it can withstand the movement and shifting of sub flooring. Usually, industry standards are at least 1-1/4", however variations occur in each stones.

The great news for you, is that anything on this list is already resistant to frequent freeze/thaw cycles in stock sizes.

As always, we recommend that all natural stone be sealed. Call us for specific recommendations.

SLATES;

As part of our dozens of stocked slates, many available in 16x16 and slabs, as well as the usual 12x12s, the following slates can be used safely in a rapid freeze/thaw environment just the way they come from the warehouse;

- Indian Copper (Pink & Grey)
- Indian Gold Green
- Jak Multicolor
- Arctic Mist
- Hunter Green
- Silver Grey
- Burgundy
- African Multicolor (Rich Autumn)
- African Silver Blue
- Museo Green
- Museo Heather
- Museo Blue

If you think you can sell any of the items listed in this article, call us for samples at 1-800-634-0866

For sealing, we recommend 511 Impregnator, which is a penetrating sealer. Slates also lend themselves to color enhancing (use Mira-matte), thereby bringing out their rich & varied colors.

OTHER OUTDOOR PAVERS;

Jerusalem Stone; from the land of the three great faiths. Westchester is happy to announce the arrival of Jerusalem Stone Pavers, suitable for outdoors. Sizes include 16"x24"x1-1/4" pavers, and 12"x48" bullnosed coping, which make ideal pool surrounds. In stock now, these pavers are in the Ramon Grey

color, a type of limestone found in the South of Israel, fairly uniform beige with a bushhammered finish. Another outdoor limestone pavers in stock includes Amber Rose flamed limestone in 12"x24"x1-1/4" and 16"x24"x1-1/4".

MATCHING INDOOR PRODUCTS

Jerusalem Stone and Amber Rose tiles and slabs are also now in stock. Match your outdoor work with indoor floors and counters. These are available in 12x12, 16x16 and 2 & 3 cm slabs. Would you like samples?

NEWS ITEMS YOU MAY HAVE MISSED . . .

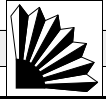
In June, Ross Horton admitted at his trial in Honolulu that he killed his business partner in 1993 after the man criticized his ability to lay tile, which Horton takes seriously as "an art form."

Reported by Chuck Shepherd

~ ~ ~

"Rome wasn't built in a day. If it had, we'd be using their contractor!"

From a billboard in Boston apologizing for the traffic delays caused by "the big dig".



Tumbled Marble . . . some answers!!!

With the growing success of tumbled marbled from Westchester, I thought I might address some commonly asked questions in a written way that you could circulate to your staff.

First, what about sealing?

Despite their appearance, tumbled marble is still just marble and uses any penetrating sealer. Westchester has historically endorsed Miracle Sealants. For aesthetic reasons, there are two options to sealing tumbled marble. By itself, tumbled marble comes in a very washed-out look, with an almost bleached-out color. For instance, the Negro Marquina is gray, not black. Any penetrating sealer (like the 511 Impregnator), recommended for marble, will work fine and leave the final appearance unchanged. However, some clients want that dark look. We stock a penetrating sealer that also contains a color enhancer for just these clients, and it is called

MIRA-MATTE (covering 100-200 sf per quart). As the name implies, the finish remains matte, not shiny. MIRA-MATTE can be used by itself in areas where grease and oils do not present a problem. Otherwise, it must be used in concert with Miracle Sealants - 511 Impregnator. If in doubt, ask us.

Second, where can they be used?

Tumbled marble is ideal for countertops, bartops, shower floors (usually 2"x2"s), fireplace surrounds (usually 8"x8"s), entrance ways and as accents to ceramic tile floors in any indoor setting. Some showrooms have made an especially beautiful installation mixing it with stone looking ceramic tile, like my MONOCIBEC. All our tumbled marbles, even the 12"x12"s, are 3/8" thick, which maybe too thin to use outdoors, but ideal for mixing with limestone, polished

marble or ceramic tile indoors.

Third, what is the best way to show the line?

Westchester has a new board program, called the Four Seasons Board Program, which is inexpensive, portable and enormously successful. Call us about it!

Anything else? Most of the items are sold by the piece, since creative design is encouraged! Make sure you quote per piece, not per foot! Also, the 4"x4"s are the lowest price on a square foot basis of all the sizes, so a design that uses this size heavily will yield the most competitive quote . . . and land the most orders!

Westchester Marble & Granite strives to import a unique line of natural stones, and we continually introduce new stones and new sizes. If you aren't sure a particular material or size is available or not, just ask. And, please call me if you have any questions at all!

A BIT OF ROMANCE;

Back when I was married - heck, even before - the most romantic weekend for me was to take my fiancée to the Cotswolds in England. Driving Northwest out of London to Oxford, we would turn North past Churchill's birthplace at Blenheim Palace and lunch at a country pub. Later we would continue on up to the Lygon Arms, in Broadway, to spend the nite in a room built in the 1500's. There are few places as charming and picturesque, and no place that epitomizes the image foreigners have of the English countryside.

Now, through exclusive arrangement, WMG has brought the Cotswolds to America. The Cotswolds is a hilly region of England, comprised of a warm, honey gold limestone, and by law, buildings there must be made of this stone. The whole region, and all its picture perfect villages, glow of old gold in the morning sun, and now this famous limestone is in stock at WMG. Available in several sizes, pillowed edge and straight, and even random planking, your high end clients are sure to recognize this color from perhaps their own romantic trip. Few stones are as famous, or as beautiful. And samples are available for far less than a ticket on British Airways . . . just ask us!

454 milligrams of Common Sense!!

In that great burst of enlightenment that brought the French & American revolutions, the later part of the 1700's also brought the invention of one unifying measurement system that would allow for trade and communication in the growing world of commerce. That system was called the Metric System. And today, only such advanced nations as Liberia, Burma & the United States have failed to make it mandatory.

Metric has had some pretty high level antagonists. Napoleon banned it when he became Emperor, but it only returned after Waterloo. The British Empire opposed it, mostly because it was a French idea. When their Empire fell, they finally went Metric, too. So why do we stay resolute? Perhaps because we are so big, and our manufacturing is largely for our own markets.



But in a business like ours, where most ceramic tile and stone are made overseas, metric is the primary measurement by which our products are made & sold. We should be at the forefront of change. Well, now come two articles you may have missed, that I bring to your attention.

First, is a very well timed article by Bob Sanelli, of the Terrazzo,

Tile & Marble Association of Canada, which appears in the November 1994 "TileLetter". The second is a paragraph under the Newline section of December 1994's "STONE WORLD". Both address metric usage in our industry; Bob points out that when we do use it, we often use it wrong & "STONE WORLD" points out we better learn quick. "Any firm wishing to participate in federally funded construction work must do so in metric," says Thomas Rutherford, P.E. & Chairman of the Construction Subcommittee of the federal Interagency Council on Metric Policy.

One millimeter is almost 25 times more accurate than an inch. And with 95% of the world using it, including most of those who make our products . . . OK, guys! I'm a believer.

Bob's points are that too often, when we do use metric, we show products in inches first, followed by centimeters in brackets. Two mistakes; 1) since our tiles are cut to metric in the first place, the metric should be the primary measurement. 2) also, according to Bob, engineering drawings and architectural documents use millimeters, not centimeters.

Therefore, a marble slab should be listed as 30mm (1-1/4") and a marble tile 305mm x 305mm x 10mm (12"x12"x3/8").

SOAP STONE:

In stock in both slabs and tiles, soap stone is a natural stone from Brazil, made principally of steatite, and it has some extremely durable properties. First, it is chemically resistant to almost anything, making it ideal for bar tops or any surface where acids are present. Second, it is thermally resistant, easily handling any temperatures you can create in your home. It can be used to line a fireplace box, or go right behind a wood stove (or anywhere temperature is a problem). It comes in a range of blue/gray tones, which are the natural variation of one material. Soapstone should not be confused with talc stone, a stone of lesser hardness, which comes in a variety of colors, which is sometimes sold as soapstone, but does not have the same incredible performance statistics.

Our soapstone is the same as was used in and around Vermont for centuries for countertops, sinks, fireplace hearths, etc. There are no longer adequate deposits in Vermont, but we have discovered this source of identical material from Brazil which has the same lasting properties. To take care of soapstone, apply 1-2 light coats of mineral oil, when first installed. This darkens the stone almost to black, which slightly lightens over time, and can be darkened again by re-applying the oil. To retain its natural color, use a penetrating sealer like 511 Impregator, by Miracle Sealants. Soapstone requires only simple care.



WHEN *NOT* TO SELL NATURAL STONE

I recently went on a residential job complaint call that was very instructive, and I thought I would share what happened.

Everyone had done their homework right, and the client had a beautiful 700 sf of limestone in their home. The problem was rooted in the expectations of the home owner, not the reality of the product. I came away thinking this guy was not a natural stone person. What he is, is a surgeon, used to controlled environments, like his operating room. Everything about his life is spotless, uniform, and just as he commands it. This is not the kind of guy to own a dog. Nothing was laying out on a counter. No clothes lay across the back of a chair. No papers, books or magazines. You could do a triple bypass there.

In my job, I have been to a few such complaints in the past, and most of them involved the same personality type. Of course we have had real product problems. But more often, we have suffered an incompatibility between what natural stone can offer, and what a client expects.

How can one determine who is a natural stone customer?

- Debrief the client. Get to understand their expectations. If control and uniformity are their game (ie; are their clothes spotless,

monochrome, just too perfect?), they may not be stone people. If they love dogs & antiques, & dress more adventurously, then they are a safer bet for limestone, slate & tumbled marble.

- Have they seen enough samples? Make sure you sample from the current lot. We are always happy to send range samples. One piece is rarely enough. We often have photo's or can take a Polaroid of our showroom installations to help explain the variation.
- Ask us! Some of our materials are more uniform (St Richard), but some take a real stone lover (Oro Rosso or Rosa Scabos). Get our opinion. Maybe we can suggest another stone from our inventory, if you tell us your clients wants and tastes. Otherwise, we figure you know what your ordering.

If the job is big, take more care, not less. As a sales person, I understand the desire not to want to blow a big sale. Often a client is impatient to wait for samples. Remember, samples are cheap. Disasters are not. Bigger disasters are very expensive indeed.

Sampling Procedures

The bread and butter activity of any stone importer is sampling. It is a far more important part of our job than in almost any other industry, because a) there is natural variation in stone, and b) color and appearance are the principle ways your client selects a particular stone (as oppose to performance or other factors).

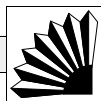
Therefore, here is a list of tips regarding successful sampling;

1) Samples in a showroom should be dated, with some way to tell vendors. An old sample, or ordering a stone from one vendor, based on a sample from another, is an accident waiting to happen.

2) Order "range samples" of the current lot for every order. We may have many lots in stock, and even if you just received your showroom samples, if they are not marked by lot number, or you only have one piece, you cannot safely place an order.

When we are asked to send "range samples", we verify there is enough material in a particular lot to fill your order (I always recommend putting it "on hold", while you are waiting for sample approval), we select several pieces of that lot to represent variation, and we mark the 4 digit lot number on the back of each piece.

3) Remember, sampling takes time . . . don't rush it.



Spring Cleaning for your showroom

I probably get into more showrooms than anyone. I had always thought I could develop a sideline business on designing or consulting on showroom design. However, what I really learned is that there are no easy answers, and the most critical success factor to any showroom is the key sales people. Many times, the departure or arrival of one dynamo, changes the sales performance of one of my customers 10 fold.

However, above and beyond hiring that elusive star sales person, there are a few key points I have concluded over the years, mostly regarding stone samples, and I share them with you here;

1) There is too much product available anymore, and every supplier and every product has to earn its real estate. Hundreds of 12x12

stone samples piled against the wall like some 70's record collection, is not an efficient or effective selling technique. Less is more; it is better to really show a few things well, than to show a lot badly.

2) Really old samples are virtually worthless. A hot item, which gets handled frequently, and gets lent out often, gets broken. The simple truth is, that an old sample which is still in good shape, probably has never been looked at by anyone, and is also no longer representative of current inventory anyway. Samples should be dated, and thrown out when past their usefulness.

3) There are trends in business, and not showing one of your major suppliers current offering would be like going to a local car

dealer, and all he has is the 1994 line. If a rep you know has wanted to send you what's new, and you find yourself telling them that you haven't room for much more, rethink it. Do you have samples laying around that you don't even know who they come from? Do you have samples so old, they probably are no longer available?

4) Vignettes and grouted boards are a great way to help your clients visualize product design. For vignettes, our Versailles, Ashler & Sierra patterns are perfect examples; they only sell when installed, but where installed, they sell phenomenally well. Our Four Seasons Board Program is also the most popular way to show our mosaics, tumbled items, railings and other concepts. These boards are inexpensive, light weight and beautiful ways to show our newest items.

A Polished Stone Can Be Vulnerable

There are many things that can hurt a polished surface. As described on p.3, a polish is made up of microscopic facets on stone crystals, giving it a perfectly flat, mirror surface. Anything that can damage that smoothness, will hurt the polished look of the stone.

Calcium based stones, like marble, are alkaline (the opposite of acids) and are easily damaged by acids (vinegar, wine, soda and most household cleaners).

Don't get me wrong; we sell a million square feet of polished stone a year, but there are things you need to know to keep your client happy.

What put this shine on in the first place was a machine the size of a building, and to restore this shine requires stone care professionals who polish the floor mechanically using abrasives, polishing compounds and equipment. So, the key is protecting that polish from the start.

We recommend;

A) Use pH balanced stone cleaners (like *Mira Clean*), not spic n span or any regular household cleaner.

B) Never clean polished marble with vinegar or grout remover.

C) To avoid scratches, put a light color marble in high traffic areas (scratches tend to look off white and "disappear" on light backgrounds), and keep grit and salt from shoes off the floor with entrance mats and occasional vacuuming with a brush attachment.



Hard water & water softeners; how do they affect limestone in a shower?

Recently, a few of our customers have called us with this question, and, whenever that happens, I am sure others would like to know the answer, even if they did not think to ask.

By and large, the advent of Miracle Sealants Porous Plus has given us all the confidence to use limestone in places we previously would have never tried; countertops, entrance ways, bathrooms, showers, etc. However, hard water, has a habit of leaving mineral stains on the surface of whatever tiles are used in showers, and this is unsightly.

What causes these stains? Lime

scale. One of the most common minerals in water is calcium carbonate, which is also the principle ingredient to limestone! Many of the problems with hard water occur because this calcium carbonate crystallizes on the surfaces of anything it is in prolonged contact with, and forms lime scale.

When this lime scale forms, it constricts and clogs pipes, and forms a rough, streaky buildup on the face of tile.

The traditional solution to cleaning involves acids, which chemically break up the chemical bond of the lime crystal. However, this action is highly

damaging to the surface of limestone (or marble for that matter), which also gets broken up. Water softeners are a better solution, but can, over the long run, loosen the fill in limestone tiles.

In short, hard water is not a good marriage with limestone showers. Physically using squeegees to wipe down water after a shower is a supreme hassle. If your client has extremely hard water, prudence may indicate using an acid resistant surface like ceramic instead of stone.

We have always contended that stone only gets a bad name when specified in inappropriate applications.

Music CD's designed specifically for showrooms

Why am I selling Music CD's?

In the past, I shared some thoughts on successful showrooms. I keep coming back to one as more important than any other; atmosphere is everything. Classical music goes a long way toward establishing atmosphere. Soft, and in the background, it projects an elegance clients aspire to, and adds to the total experience, like the smell of spiced candles in a country store. Even New York's Penn Station has switched to playing classical music, in what is otherwise a hectic environment.

But what music to play. Not all of us are classical music experts. To solve that problem, I am now offering a few pre-selected CD's for sale.

First, a unique set of CDs for both the beginning and end of every day, to reduce the stress of entering and exiting the work environment; "Health & Wellness Collection"- a two volume set. Available at \$29.95 for the complete 2 CD's.

Second, over 50 Baroque pieces carefully selected for volume and tempo, to enhance any working or shopping environment, while reducing stress; "Relax with the Classics" - a four volume set. Available at \$47.94 for the complete 4 CD's.

Finally, another recommendation is my own distant cousin, Thomas Linley (1756-1778), who was a friend of Mozart, a rival of Handel, and one of England's foremost composers. Had his life not been cut short by a freak boating accident at 22, who knows what he would have accomplished.

Two different CD's of his music exist at \$17.99 each.

To place an order, call me at 212-580-9704, or visit my web site (<http://www.linley.com>), or copy this form and mail it with a check to ;

Christopher L. Johnson, 107 W. 86th Street, 9E, New York, NY 10024 USA

Name _____

Company _____

Address _____

Phone _____

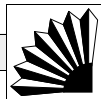
___Health & Wellness@ \$29.95 ea.

___Relax w/ the Classics@ \$47.94ea.

___Thomas Linley I @ \$17.99 ea.

___Thomas Linley II @ \$17.99 ea.

In the US, please add \$2.49 shipping for one CD, \$0.49 each add'l CD. NY residents add 9.25% sales tax.



Remember, all stone must be sealed!

Most of our customers know that all stone must be sealed, but as we specialize in unusual stones, here are a few special tips you might find helpful;

To seal limestone:

Due to the large size of the pores in limestone, almost anything you spill on them sinks right in. And because it goes so deep, it becomes impossible to clean off.

The only solution is a penetrating sealer which fills the pores near the surface. The best sealer for limestone we have ever found is made by Miracle Sealants of California.

Porous Plus is Miracle Sealants new one-step sealer (which replaces the old two-step Pre-Treat & Impregnator), and it is specifically designed for materials with large pores and is cheaper and easier than its predecessor.

Porous Plus has an added polymer that gives it more structure, to keep the sealer closer to the surface, which is difficult for other sealers to do on extremely porous surfaces, like limestone.

To seal tumbled marble:

Despite its appearance, tumbled marble is functionally the same as polished marble when it comes to sealers. A penetrating sealer like ***511 Impregnator***, is

perfect. However, because the color of tumbled marble often has that washed out look, a color enhancer like ***Mira Matte***, can effectively bring out the color. First treat with ***511 Impregnator*** (allow an hour to dry), and then treat with ***Mira Matte***. This will offer good protection and color. Please note; tumbled limestone should be treated as limestone.

To seal slate:

We recommend the same basic procedure as listed above, ***511 Impregnator***, followed by ***Mira Matte***. To achieve a shiny slate look, follow the ***511 Impregnator*** with ***Mira Shine***.

To seal soapstone:

- see article on page 8

Writing Spec's that hold (and hold, and hold . . .)

Anyone who makes architectural calls, knows how easy it is for a specification to be broken. To all of you, this story should be encouragement;

The US Standard railroad gauge (distance between the rails) is 4 feet, 8 1/2 inches. That's an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England, and the US railroads were built by English expatriates. Why did the English people build them like that? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used. Why did "they" use that gauge then? Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing.

Okay! Why did the wagons use that odd wheel spacing? Well, if they tried to use any other spacing the

wagons would break on some of the old, long distance roads, because that's the spacing of the old wheel ruts. So who built these old rutted roads? The first long distance roads in Europe were built by Imperial Rome for the benefit of their legions. The roads have been used ever since. And the ruts? The initial ruts, which everyone else had to match for fear of destroying their wagons, were first made by Roman war chariots. Since the chariots were made for or by Imperial Rome they were all alike in the matter of wheel spacing.

Thus, we have the answer to the original question. The United States standard railroad gauge of 4 feet, 8 1/2 inches derives from the original specification for an Imperial Roman army war chariot. Some specs and Bureaucracies live forever.

If only some of our other hard won specs lasted forever, too!