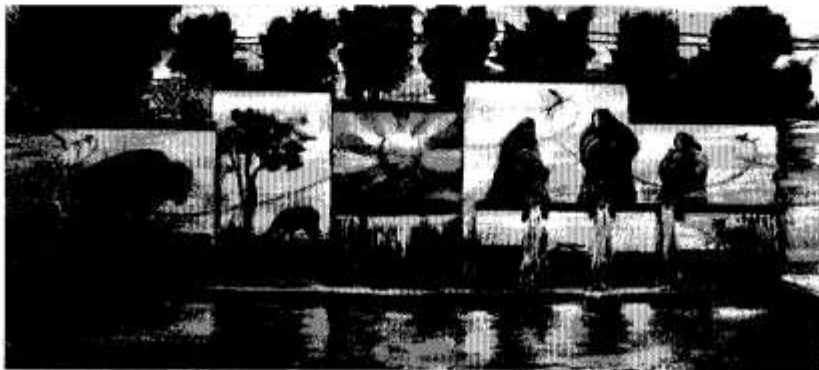


# ***The Oklahoma Centennial Mosaic Mural***



**A Proposal to the  
City of Oklahoma City**

**From  
The Oklahoma Centennial Commission and  
Oklahoma City Community College**

**November 2, 2004**

**THE OKLAHOMA CENTENNIAL MOSAIC MURAL**  
A Project of the Oklahoma Centennial Commission

Proposed to the City of Oklahoma City by the  
Oklahoma Centennial Commission and  
Oklahoma City Community College

November 2, 2004

**Project Title**

The Oklahoma Centennial Mosaic Mural

**Sponsors**

The Oklahoma Centennial Commission  
Oklahoma City Community College  
Oklahoma City Community College Foundation

**Description**

Oklahoma City Community College and Professor Mary Ann Moore, Mosaicist and Project Director, will design, produce, and install a mosaic tile mural as part of Oklahoma's centennial celebration in 2007.

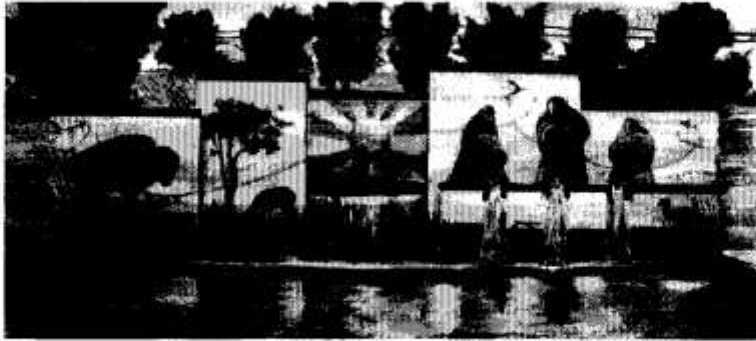
The mosaic mural (depicted on the cover page and in the attachments) will include Oklahoma natural landscapes and wildlife, almost all official symbols of the state of Oklahoma. These images will serve to educate the public regarding official state symbols and emblems from nature.

The mural will total approximately 1,150 sq. ft. of wall space and be comprised of handmade porcelain and Oklahoma clay tile pieces, first adhered to mesh, then installed on walls, grouted, and sealed.

**Proposed Site**

Oklahoma City Bricktown, Canal Water Plaza, the northwest terminus of the canal system (a photo of the site is included on page 5).

### Artistic Design



The conceptual artistic drawing for the mural incorporates the existing water features of the Canal Water Plaza as well as the official state of Oklahoma symbols. It is designed to enhance the calmness and tranquility of the surrounding environment and add significantly to the aesthetic value of the Bricktown canal.

It is hoped that the mural will be an oasis from the crowded, fast-paced atmosphere of street level attractions in the Bricktown area, with a state-wide appeal. The size, detail, artistic impression, and location of the mosaic mural will make it a state-wide and national educational and tourist attraction.

The mural is bordered in Oklahoma red clay mosaic tiles that will include the name of each county in the state of Oklahoma separated by mosaic tiles that depict the state's official wildflower, the Indian Blanket (see below).



The following state symbols are included in the mural images:

<u>Designation</u>	<u>Symbol/Emblem</u>	<u>Year Adopted</u>
Amphibian	Bull Frog	1997
Animal	Bison	1972
Bird	Scissor-tailed Flycatcher	1951
Butterfly	Black Swallowtail	1996
Fish	White Bass aka Sand Bass	1974
Floral Emblem	Mistletoe	1893
Furbearer	Raccoon	1989
Game Animal	White-tail Deer	1990
Game Bird	Wild Turkey	1990
Grass	Indian Grass	1972
Insect	Honeybee	1972
Flower	Oklahoma Rose	2004
Reptile	Mountain Boomer/Collared Lizard	1969
Rock	Rose Rock	1968
Soil	Port Silt Loam	1987
Tree	Redbud	1971
Wild Flower	Indian Blanket	1910

The women pouring water represent the Three Graces from Classical Mythology and from Native American and Pioneer traditions. Whether the sisters are called elements, Joy, Charm and Beauty or corn, bean and squash or Faith, Hope and Charity, the water flowing from their pots represents the renewal of life.

#### **Artistic Design Team**

The team that designed the artistic concept for the mural includes:

Mary Ann Moore, Professor of Art, Oklahoma City Community College  
 Carolyn Farris, Professor of Art, Oklahoma City Community College  
 Rob McClellan, Artist, University of Oklahoma  
 Gary Royal, Artistic Concept Consultant

#### **Project Director and Mosaicist**

Mary Ann Moore, Professor of Art at Oklahoma City Community College and Mosaicist, will serve as the project director and lead mosaicist. Mary Ann Moore was the mosaicist for the Oklahoma Historical Mosaic Murals at Oklahoma City Community College. Photographs of these four large murals (each 12 ft. by 32 ft) are included on page 6 of this proposal.

**Project Timeline**

After securing the necessary approvals, the production of tiles and placement on the mesh is estimated to take 23 months. The installation at the site, depending on weather, will take between 1 and 2 weeks.

**Media and Materials**

**Tesserae (fired tiles).** Handmade tile pieces of porcelain, Oklahoma clay, and Cinco Roho will be glazed and high-fired to a frost proof temperature of 2,300 degrees Fahrenheit. This process results in a high quality tiles with a high degree of consistency and excellent color match.

**Mesh.** The mesh on which the tiles will be adhered is NobelSeal CIS, a composite, elastomeric sheet membrane designed to protect tile from cracking and/or to bridge control joints and provide waterproofing.

**Adhesive.** The adhesive, Sikadur 31, to be used is a high-strength, structural, extended life, epoxy paste adhesive. It provides excellent adhesion to concrete, masonry metals, and most structural materials.

**Grout.** The grout that will be used is C-Cure #924 is a one-part, Latex Portland cement grout. It provides the highest performance available in the industry. It is used to form a colorfast, dense matrix grout for grouting non-absorptive, semi-vitreous tiles.

**Sealer.** The sealer to be used is from Aldon Sealers, the industry leader. It will provide a protective maintenance coat on the tiles and grout and is waterproof. The sealer is designed for commercial and industrial uses.

Additional information on the media and material, including manufacture specifications, is available.

**Long-Term Maintenance and Repair**

The long-term maintenance and upkeep is minimal. The mosaic mural may require non-pressure cleaning as needed. It may also require an inspection at least every three years to re-seal exposed areas as needed.

Photo of Proposed Site

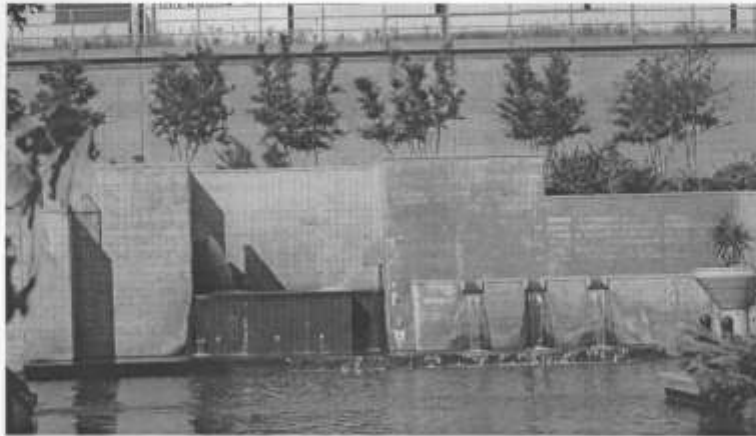
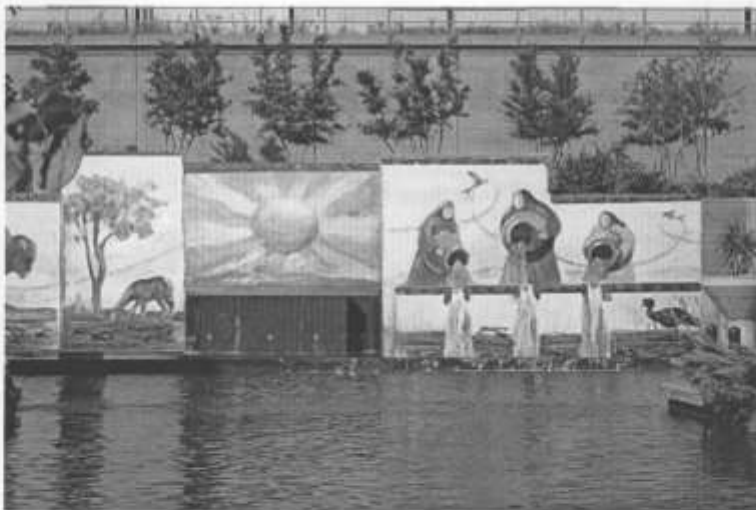
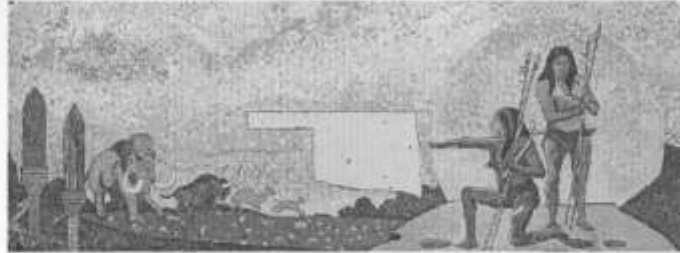


Photo of Proposed Site with Imposed Mosaic Mural Artistic Design



**The Oklahoma Historical Mosaic Murals at Oklahoma City  
Community College (Prof. Mary Ann Moore, Mosaicist)**







Centennial  
Mosaic





# Oklahoma

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## State symbols and emblems

Designation	Symbol / Emblem	Adopted
<b>Amphibian</b> (Unofficial)	<b>Bull Frog</b> ( <i>Rana catesbeiana</i> )	1997
Animal	Bison ( <i>Bison bison</i> )	1972
Anthem	"Oklahoma!," lyrics by Oscar Hammerstein II, music by Richard Rogers	1953
Beverage	Milk	1985
<b>Bird</b>	<b>Scissor-tailed Flycatcher</b> ( <i>Muscivora forficata</i> )	1951
<b>Butterfly</b>	<b>Black Swallowtail</b> ( <i>Papilio polyxenes</i> )	1996
Children's Song	"Oklahoma, My Native Land" composed and written by Martha Kemm Barrett	1996
Country & Western Song	"Faded Love" by John Willis and Bob Wills	1988
Folk Dance	Square Dance	1988
Folk Song	"Oklahoma Hills" composed and written by Woody Guthrie and Jack Guthrie	2001
<b>Fish</b>	<b>White Bass</b> , also called <b>Sand Bass</b> ( <i>Morone chrysops</i> )	1974
Flag	Click...	1925
Floral Emblem	Mistletoe ( <i>Phoradendron serotinum</i> )	1893

Flower	Oklahoma Rose - Effective November 1, 2004	2004
Fossil	<i>Saurophaganax maximus</i>	2000
Furbearer Animal	Raccoon ( <i>Procyon lotor</i> )	1989
Game Animal	White-tail deer ( <i>Odocoileus virginians</i> )	1990
Game Bird	Wild Turkey ( <i>Meleagris gallopavo</i> )	1990
Grass	Indian Grass ( <i>Sorghastrum nutans</i> )	1972
Great Seal	Click...	1906
Insect	Honeybee ( <i>Apis mellifera</i> )	1992
Meal	Fried okra, squash, cornbread, barbecue pork, biscuits, sausage and gravy, grits, corn, strawberries, chicken fried steak, pecan pie, and black-eyed peas.	1988
Musical Instrument	Fiddle	1984
Percussive Musical Instrument	Drum	1993
Pin	"OK" pin	1982
Poem	"Howdy Folks" by David Randolph Milsten	1973
Reptile	Mountain Boomer or Collared Lizard ( <i>Crotaphytus collaris</i> )	1969
Rock	Rose Rock (Barite rose)	1968
Soil	Port Silt Loam ( <i>Cumulic</i> )	1987



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## Bison Management



In 1913, 14 bison (6 bulls and 8 cows) were donated to the Wind Cave National Monument by the American Bison Society. The American Bison Society was the first to reintroduce bison to the Great Plains. The first bison (2 bulls and 4 cows) were introduced to the park in 1916. The present Wind Cave National Monument bison herd originated from these 14 bison.

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Page Last Updated: Saturday, June 5, 2004 12:11 PM  
Web Author: Jim Pisarowicz

### Description

This is the largest frog in Canada and North America. The bullfrog is brilliant green and grows to a length of 20 cm. Its belly is typically white, but may be mottled with a silvery-grey flecking. The body is flat and broad, the head and eyes are large. The forelegs are short and the strong hind legs have webbed toes. A fold of skin extends around the eardrum, but there is no dorsolateral fold down the back, as in the green frog. Tadpoles are greenish-gold on the back with a light underside, sprinkled with fine yellow dots, and have flat tails, no limbs and gills. Males have a yellow throat, but the female's throat is plain.







Photo by P.O Gustafson  
(see [links](#) below)

Common Name:  
Honeybee

Scientific Name:  
*Apis mellifera*

Awards:  
State Insect of Kansas (1976),  
Arkansas (1973), Georgia (1975),  
Louisiana (1975), Maine (1975),  
Mississippi (1980), Missouri (1985),  
Nebraska (1974), New Jersey (1974),  
North Carolina (1973), Oklahoma (1992),  
South Dakota (1978), Tennessee (1990),  
Utah (1983), Vermont (1978),  
Wisconsin (1977)

One of the most familiar insects in the world is the Honeybee. This member of the insect order **Hymenoptera** plays a key role in the human and natural world. More has been written about honeybees than any other species of insect. The human fascination with this insect began thousands of years ago when people discovered what wonderfully tasty stuff honey is!

**Honey** is a thick liquid produced by certain types of bees from the nectar of flowers. While many species of insects consume nectar, honeybees refine and concentrate nectar to make honey. Indeed, they make lots of honey so they have plenty of food for times when flower nectar is unavailable, such as winter. Unlike most insects, honeybees remain active through the winter, consuming

Player.




Click here  if you don't already have it.



Photo by P.O. Gustafson  
(see [links](#) below)

The central feature of the bee hive is the **honeycomb**. This marvel of insect engineering consists of flat vertical panels of six-sided cells made of **beeswax**. Beeswax is produced from glands on the underside of the abdomens of worker bees when they are between 12 and 15 days old. House bees take the beeswax and form it with their mouths into the honeycomb. The cells within the comb will be used to raise young and to store honey and pollen.

The comb is two-sided, with cells on both sides. As you can see, the cells are perfectly uniform in shape. Not only that, but the combs are built a precise distance apart depending on whether they are meant to contain food or young bees. The nursery area of the hive is called

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## Sorghastrum nutans

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Tolerance Guide	Uses	Exceptional	Miscellaneous Features	Foliage Colors
<input checked="" type="checkbox"/> Drought/Dry <input type="checkbox"/> Boggy/Wet <input type="checkbox"/> Shade <input type="checkbox"/> Aquatic <input type="checkbox"/> Sandy <input type="checkbox"/> Salty <input type="checkbox"/> Annual Zone 4a	<input type="checkbox"/> Specimen <input type="checkbox"/> Edger <input type="checkbox"/> Groundcover <input checked="" type="checkbox"/> Background <input type="checkbox"/> Rock Garden <input type="checkbox"/> Pond Edge <input type="checkbox"/> Mass Planting <input type="checkbox"/> Fence Border <input type="checkbox"/> Container	<input type="checkbox"/> Early Plumes <input checked="" type="checkbox"/> Great Plumes <input type="checkbox"/> Summer Color <input checked="" type="checkbox"/> Fall Color	<input checked="" type="checkbox"/> Native to N. America <input type="checkbox"/> Invasive <input type="checkbox"/> Variegated <input checked="" type="checkbox"/> Dried Arrangements <input type="checkbox"/> Toxic <input type="checkbox"/> Self Sowing <input type="checkbox"/> Sterile	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Red/Burgundy <input type="checkbox"/> Pink <input type="checkbox"/> Blue/Steel <input type="checkbox"/> White/Cream <input type="checkbox"/> Yellow/Gold <input type="checkbox"/> Black <input type="checkbox"/> Brown

**Plume Picture**

**Botanical Name:**  
Sorghastrum nutans

**Family:** Poaceae (Grass)

**Common Name:** Indian Grass

**Latin:** Sorghastrum (sor-GAS-trum) nutans (NOO-tanz)

**Description:** One of the major constituents of the Tall Grass Prairie, Indian Grass creates tall seas of waving amber hues.

**Zone:** 4a

**Origin:** Canada to Mexico

**Leaf Blade (wxl):** 1/2 x 12

<http://www.hostas.com/grasses/gallery/grass-30.html>

9/13/2004





## The Three Graces

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ALT-LIB

Alternative Library  
 Main Chamber



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Bertel Thorvaldsen  
 Accademia di Brera, Milan

In Greek mythology, the three goddesses of joy, charm, and beauty. The daughters of the god Zeus and the nymph Eurynome, they were named Aglaia (Splendor), Euphrosyne (Mirth), and Thalia (Good Cheer). The Graces presided over banquets, dances, and all other pleasurable social events, and brought joy and goodwill to both gods and mortals. They were the special attendants of the divinities of love, Aphrodite and Eros, and together with companions, the Muses, they sang to the gods on Mount Olympus, and danced to beautiful music that the god Apollo made upon his lyre. In some legends Aglaia was wed to Hephaestus, the craftsman among the gods. Their marriage explains the traditional association of the Graces with the arts; like the Muses, they were believed to endow artists and poets with the ability to create beautiful works of art. The Graces were rarely treated as individuals, but always together as a kind of triple embodiment of grace and beauty. In art they are usually represented as lithe young maidens, dancing in a circle. (Microsoft Encarta Encyclopedia 99)



## FUN FACTS

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### Raccoons

Meeko, Pocahontas's companion in the new Disney movie (POCAHONTAS) is a raccoon (rack-KOON). Actually, Captain John Smith did play a roll in the naming of this cute carnivore which is native to North and Central America. In 1612, he wrote "There is a beast they call Aroughcun", which the Indians prized for its meat and fur. The name Aroughcun means "he scratches with his hands." The scientific name for the most common North American raccoon is *Procyon lotor*. Lotor is Latin for "washer" and the raccoon has been observed by many to "wash" its food.

There are seven species of raccoons in the new world, five live on tropical islands, one in the Yucatan and our friend Aroughcun. Although they are classified carnivores (meat eaters) they really are omnivorous, eating fish, frogs, clams, crayfish, termites, ant larvae, mice, insects and fruit, berries, nuts and vegetables and dog and cat food if they are living in the "city." Usually, they live in forests, marshes, plains but they also thrive in urban areas. In the wild they live approximately 6 years and the females give birth to 1-7 young after a 2 month long pregnancy. The adults usually weigh about 20-25 pounds with the males larger than the females. They do not hibernate but will become dormant in the cold northern winters.

The raccoons have a reputation for clever nighttime raids on garbage cans and because of their almost hand-like front paws with their long, thin mobile fingers they can learn to open cans, latches, turn on faucets and get into all kinds of fun and trouble. They use these hands to catch their food and often appear to wash their food before eating it and wash their hands, but scientists aren't sure what this behavior really means. Most raccoons lead solitary lives but they can group together for food or shelter and the young stay with their mothers through the summer and into fall. Raccoons can carry some diseases which can be transmitted to humans and pets so it is unwise to pet or touch wild

## TURKEYS *Meleagrididae*

- Species in family 2
- Species observed [DR] 1 (50%)
- Species photo'd [DR] 1



There are only two species of Turkeys extant in the world today; the **Wild Turkey** (left) of North America, and the Ocellated Turkey *Meleagris ocellata* of the Yucatan Peninsula, Mexico. From the fossil record they were once much more widespread. They diverged from pheasants 11 million years ago and were likely "distributed continuously from middle latitudes of North America to northern South America during the Pleistocene" (Porter 1994). Today the Wild Turkey exists as a native only in

eastern and southwestern North America and northernmost Mexico; populations on the West Coast and in the Great Basin are introduced. However, since turkeys were once native to all these latter areas, it can be argued they are "re-introduced into a former range" rather than the despised plantings of non-native gamebirds which has so often occurred.

Males have elaborate breeding displays; this one (right) was in full courtship of the female (below left) by drooping his wings, raising and spreading his tail, puffing out his chest so the sunlight catches the iridescence, inflating his neck wattles, and gobbling. I found several males displaying to this female in oak savanna of eastern Lake County, California, and they were so focussed on their displays that they permitted close



approach (using the car as a blind on a back road). Usually, turkeys are shy and secretive (even where introduced) and (while tolerating cars) will scurry away once anyone steps out. Both the native and introduced populations are hunted. Indeed, turkeys were so important as a food source in early American history that Benjamin Franklin proposed they become the national bird (an honor that was bestowed instead on the Bald Eagle).





Anyway  
I have  
never  
come  
upon  
such  
energeti  
males

in my years of birding as the ones shown here, and eventually the males got more excited in bellowing at each other in threat postures (below) that the female wandered away unmolested. One can see the odd wattle hanging down over the bill in this latter photo. Because they are so popular as a game bird, attempts to introduce (or re-introduce if speaking on an epochal scale) turkeys to California started as early as 1877 (Grinnell & Miller 1944). Various subspecies have been involved, including ranch-raised birds, but most have been of the south Texas and northern Mexican subspecies *M. g. intermedia* (Grinnell & Miller 1994, Roberson & Tenney 1993). The birds shown on this page show evidence of that subspecies as they possess whitish to buffy-white tips to the rectrices; eastern populations (*M. g. silvestris* or *osceola*) have rusty tail tips. Many of the efforts to introduce turkeys in California (such as on Santa Cruz Island or in the far northwest in Humboldt Co.) failed, sometimes because the habitat was inappropriate. Turkeys in California thrive best in extensive oak woodlands with a heavy acorn crop (Roberson & Tenney 1993).



In my home of Monterey County, the turkeys originated from very aggressive stocking operations by Calif. Fish & Game which began in 1965 and continued for about a decade. At least 361 birds were released over the past 30 years, some 277 of which were California ranch-raised birds or wild trapped individuals from previously established

populations in nearby Santa Clara and San Benito counties (and of the *intermedia* race). Birds were usually released in groups of 8-14 to form stable "flocks." From this start, good habitat (oak woodland) and good climate produced bumper "wild-bred" crops of youngsters and the population spread widely through the habitat. Our atlas estimate was 500 pairs in Monterey County alone, but this was likely low (Roberson & Tenney 1993).

**Photos:** all four shots of *Wild Turkey* *Meleagris gallopavo* were taken in Lake Co., California, in May 1998; these birds are from an introduced population that is considered "established" under the guidelines of the California Bird Records Committee. Photo © D. Roberson.

#### Bibliographic note:

<http://www.montereybay.com/creagrus/turkeys.html>

9/13/2004

There is no "family book" per se of which I'm aware, although the literature on the Wild Turkey must be vast, given its popularity as a game bird. An excellent introduction to the family is in Porter (1994).

Literature cited:

Grinnell, J., and A. H. Miller. 1944. *Distribution of the Birds of California*. Pac. Coast Avifauna 27. Cooper Ornith. Society.

Porter, W. F.. 1994. Family Meleagrididae (Turkeys) in del Hoyo, J., Elliott, A., & Sargatal, J., eds. *Handbook of the Birds of the World*. Vol. 2. Lynx Edicions, Barcelona.

Roberson, D., and C. Tenney, eds. 1993. *Atlas of Breeding Birds of Monterey County*. Monterey Pen. Audubon Soc., Carmel, CA.

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## WHITE BASS



*Morone chrysops*

**DESCRIPTION:** The white bass is one of the three members of the true bass family in Oklahoma; the others being the introduced striped and native yellow bass. The dorsal fin of the white bass is distinctly separated; the anal fin has three spines and 12 soft rays. Body color is light greenish above, silver sides and white below. As opposed to a double spine on the gill cover in the striper, the white bass has only one spine.

**OKLAHOMA DISTRIBUTION:** Native to Oklahoma but never in great numbers prior to the construction of large reservoirs. Statewide distribution.

**LIFE HISTORY:** A very prolific fish, one female white bass can produce up to one million eggs. Reproductive activities are triggered by 50 to 55 degree F. water temperature. Spawning is at random over weeds, debris and rock. When tributary streams are available, this species prefers upstream migration for spawning. No parental care is provided to the eggs or young. The natural diet of white bass includes fish (mainly shad), insects and crustaceans.

**VALUE:** A very important sport fish and of some commercial value. Estimates have been made that 11/2 million pounds of white bass are harvested annually from Oklahoma waters by sport fishermen. Due to the short life span and high reproductive capacity, no creel limits are imposed. Fishermen learn early to watch for circling and diving sea gulls and/or surface disturbances as sure signs of schooling shad. Where there are shad, "sandies" are nearby. When they are on a feeding rampage almost any lure presented will be taken, but spoons, spinners, flies and jigs in silver, yellow and white, head the list of preferred artificials. The best natural bait is a live minnow. For good eating, this fish should be filleted, cut in chunks and rolled in batter for deep oil frying.

[ [Home - Fishing Notebook](#) | [Sign Guestbook](#) | [View Guestbook](#) | [Fishing Ring](#)  
[Wisdom](#) | [Maps](#) ]

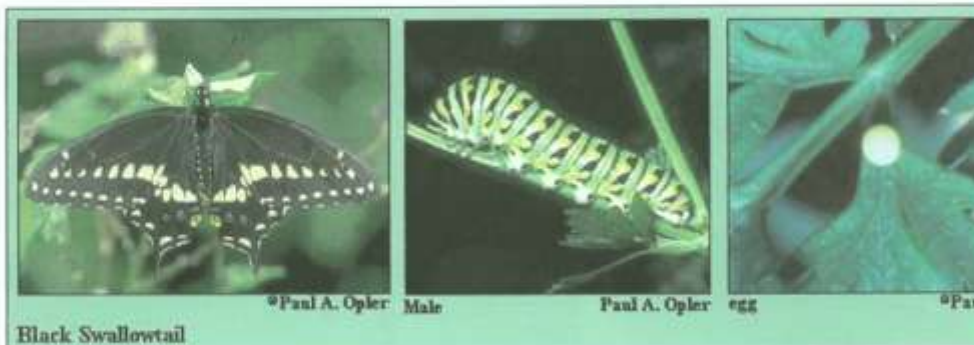
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## Butterflies of North America

### Black Swallowtail (*Papilio polyxenes*)



[More Images](#)

#### Black Swallowtail (*Papilio polyxenes* Fabricius)

**Wing span:** 3 1/4 - 4 1/4 inches (8 - 11 cm).

**Identification:** Upper surface of wings mostly black; on inner edge of hindwing is a black spot centered in larger orange spot. Male has yellow band near edge of wings; female has row of yellow spots. Female hindwing with iridescent blue band. In the Southwest, yellow forms predominate in the subspecies *P. coloro*.

**Life history:** Males perch and patrol for receptive females. Female lays eggs singly on leaves and flowers of the host, which are then eaten by hatching larvae. Hibernates as a chrysalis.

**Flight:** One-2 flights from April-October in northern regions of range; 3 flights in southern regions.

**Caterpillar hosts:** Leaves of plants in the parsley family (Apiaceae) including Queen Anne's Lace, carrot, celery and dill. Sometimes plants in the citrus family (Rutaceae) are preferred.

**Adult food:** Nectar from flowers including red clover, milkweed, and thistles.



## Oklahoma Crystal Collecting

### "World's best" barite rose cluster displayed in Ardmore

A spectacular cluster of barite roses – the state rock of Oklahoma – is on display during the summer of 2000 in the Love's Country Store at Interstate 35 and Exit 32 (12th Ave. NW) in Ardmore, Oklahoma.

The cluster, found 20 miles southeast of Norman, Oklahoma, is 62 inches long, 24 inches high and 18 inches wide. It weighs 788 pounds and required three months to extract intact. Named "Redwine and Rose" for its finders, Tom and Ann Redwine, the final removal and cleaning of the specimen took the efforts of four men over a two-day period.

Smaller rose rocks are for sale at the store.



Mvc-314f



Mvc-315f



Mvc-319f



Mvc-321f



Mvc-323f



Mvc-324f



Mvc-325f

[Home to Oklahoma Crystal Collecting](http://www.joelobell.com/roserock/roserock.html)



# Port Silt Loam

Oklahoma's State Soil



Oklahoma Conservation Commission

## Port Silt Loam — Oklahoma's State Soil

Even before statehood Oklahoma's most valuable resource was its resourceful and imaginative people. Through the years they have chosen varied official state symbols to reflect their numerous interests, endeavors and habitat.

Many of the state symbols come with stories as colorful and unusual as the symbols themselves. One of the more recently adopted state symbols was the selection of Port Silt Loam (*Cumulic Haplustolls*) to represent the state soil for Oklahoma. The state soil was added to the list of official state symbols by the Oklahoma Legislature in 1987.



### Why Have a State Soil?

Designating a state soil provides educational opportunities. Having a state soil helps bring attention to the importance of our soils and to the fact that we need to conserve the land for the well being of future generations. It gives educators and conservationists a specific soil on which to focus attention and to use as an example. Several other states across the nation have selected and designated a state soil to help them in their public awareness programs.

## Port Silt Loam — Oklahoma's State Soil

### Why Is Soil Important ?

The citizens of Oklahoma should have a keen awareness that soil is one of our most valuable natural resources. We could not survive and enjoy life as we know it, without soil. We get our food and much of our clothing and shelter from plants growing in the soil. Yet our actions since statehood show that we do not take very good care of this resource that is so important to the livelihood and well-being of our people — we let over 100 million tons of topsoil wash and blow away each year.

### Oklahoma Has 2,500 Types of Soil

Oklahoma has a variable climate and many different kinds of geologic materials across the state. Both of these factors and others greatly influence the formation of different kinds of soil. There are over 2,500 different kinds of soil in Oklahoma. Some soils are naturally fertile, yet others are very limited in productivity. No one individual soil occurs throughout every region of the state.

*Local conservation district offices and the USDA Natural Resources Conservation Service offer valuable resources for soils information. Oklahoma has 88 conservation districts.*

**From:** "Laskey, Annette M. (HSC)" <Annette-Laskey@ouhsc.edu>  
**To:** <Pabastar@msn.com>  
**Date:** 11/10/04 7:35PM  
**Subject:** Article

From The Journal Record  
City ponders hugh mosaic proposed for Bricktown canal

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HEIDI R. CENTRELLA, THE JOURNAL RECORD

Updated: November 9, 2004, 4:08 PM

A 1,500-square-foot mosaic has been proposed at the west end of the Bricktown canal.

The Oklahoma Centennial Commission and Oklahoma City Community College are working in tandem to create and fund the mosaic before the state's centennial celebration in 2007.

The measure was scheduled to be addressed Wednesday by the Bricktown Urban Design Committee. The committee removed the item from its agenda late Monday due to further processing requirements, said John R. Calhoun at the Oklahoma City Planning Department.

"The city, as the owner, has not yet signed the application," Calhoun said. "(Oklahoma City Parks and Recreation Department) has had it and known it's there and has not yet done it. So it's not like they've just been surprised by having this handed to them. At this point, it's somewhere kicking around city management."

Wendel Whisenhunt, director of Parks and Recreation, said the matter needs to first go before the Oklahoma City Council.

"It was referred to me a few days ago, and the matter of sending it to the city council had not yet been recognized," Whisenhunt said. "And when I recognized that, I informed the planning department that it had to go to council first, and, of course, they agreed."

Calhoun said the soonest the item can be heard is early next month.

Lee Allan Smith, chairman of projects and special events at the Oklahoma Centennial Commission, said he feels confident the measure will be approved.

"We think we've done our homework to go to them early ... to let them know our hopes and line up any suggestions or ideas so they had their chance to help this along," he said. "If they weren't to approve it, it would be disappointing."

The primary artist on the project, Mary Moore, professor of visual arts at the college, said it will take a team of artists and volunteers to complete the near \$200,000 project with images of wildlife, Red Bud trees, pouring water, an Oklahoma sunrise and the state's 77 counties, situated at the boat turnaround on the west end of the canal. The images will be crafted from porcelain and native red Oklahoma clay.

"We just wanted to have that same peaceful and tranquil, serene feeling," Moore said, describing the location on the canal where the mosaic would be located, if approved by the city.

As of press time, officials at OCCC were not available for comment.

Heidi R. Centrella reports on energy, health care, city government and social issues. You may reach her by phone at 278-2838 or by e-mail at [heidi.centrella@journalrecord.com](mailto:heidi.centrella@journalrecord.com) <<mailto:heidi.centrella@journalrecord.com>> .

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CC: <[mmoore@okccc.edu](mailto:mmoore@okccc.edu)>



**THE OKLAHOMA CENTENNIAL MOSAIC MURAL**  
A Project of the Oklahoma Centennial Commission

Proposed to the City of Oklahoma City by the  
Oklahoma Centennial Commission and  
Oklahoma City Community College

November 2, 2004

**Project Title**

The Oklahoma Centennial Mosaic Mural

**Sponsors**

The Oklahoma Centennial Commission  
Oklahoma City Community College  
Oklahoma City Community College Foundation

**Description**

Oklahoma City Community College and Professor Mary Ann Moore, Mosaicist and Project Director, will design, produce, and install a mosaic tile mural as part of Oklahoma's centennial celebration in 2007.

The mosaic mural (depicted on the cover page and in the attachments) will include Oklahoma natural landscapes and wildlife, almost all official symbols of the state of Oklahoma. These images will serve to educate the public regarding official state symbols and emblems from nature.

The mural will total approximately 1,150 sq. ft. of wall space and be comprised of handmade porcelain and Oklahoma clay tile pieces, first adhered to mesh, then installed on walls, grouted, and sealed.

**Proposed Site**

Oklahoma City Bricktown, Canal Water Plaza, the northwest terminus of the canal system (a photo of the site is included on page 5).

### Artistic Design



The conceptual artistic drawing for the mural incorporates the existing water features of the Canal Water Plaza as well as the official state of Oklahoma symbols. It is designed to enhance the calmness and tranquility of the surrounding environment and add significantly to the aesthetic value of the Bricktown canal.

It is hoped that the mural will be an oasis from the crowded, fast-paced atmosphere of street level attractions in the Bricktown area, with a state-wide appeal. The size, detail, artistic impression, and location of the mosaic mural will make it a state-wide and national educational and tourist attraction.

The mural is bordered in Oklahoma red clay mosaic tiles that will include the name of each county in the state of Oklahoma separated by mosaic tiles that depict the state's official wildflower, the Indian Blanket (see below).







The following state symbols are included in the mural images:

<u>Designation</u>	<u>Symbol/Emblem</u>	<u>Year Adopted</u>
Amphibian	Bull Frog	1997
Animal	Bison	1972
Bird	Scissor-tailed Flycatcher	1951
Butterfly	Black Swallowtail	1996
Fish	White Bass aka Sand Bass	1974
Floral Emblem	Mistletoe	1893
Furbearer	Raccoon	1989
Game Animal	White-tail Deer	1990
Game Bird	Wild Turkey	1990
Grass	Indian Grass	1972
Insect	Honeybee	1972
Flower	Oklahoma Rose	2004
Reptile	Mountain Boomer/Collared Lizard	1969
Rock	Rose Rock	1968
Soil	Port Silt Loam	1987
Tree	Redbud	1971
Wild Flower	Indian Blanket	1910

The women pouring water represent the Three Graces from Classical Mythology and from Native American and Pioneer traditions. Whether the sisters are called elements, Joy, Charm and Beauty or corn, bean and squash or Faith, Hope and Charity, the water flowing from their pots represents the renewal of life.

#### **Artistic Design Team**

The team that designed the artistic concept for the mural includes:

Mary Ann Moore, Professor of Art, Oklahoma City Community College  
 Carolyn Farris, Professor of Art, Oklahoma City Community College  
 Rob McClellan, Artist, University of Oklahoma  
 Gary Royal, Artistic Concept Consultant

#### **Project Director and Mosaicist**

Mary Ann Moore, Professor of Art at Oklahoma City Community College and Mosaicist, will serve as the project director and lead mosaicist. Mary Ann Moore was the mosaicist for the Oklahoma Historical Mosaic Murals at Oklahoma City Community College. Photographs of these four large murals (each 12 ft. by 32 ft) are included on page 6 of this proposal.

### **Project Timeline**

After securing the necessary approvals, the production of tiles and placement on the mesh is estimated to take 23 months. The installation at the site, depending on weather, will take between 1 and 2 weeks.

### **Media and Materials**

**Tesserae (fired tiles).** Handmade tile pieces of porcelain, Oklahoma clay, and Cinco Roho will be glazed and high-fired to a frost proof temperature of 2,300 degrees Fahrenheit. This process results in a high quality tiles with a high degree of consistency and excellent color match.

**Mesh.** The mesh on which the tiles will be adhered is NobelSeal CIS, a composite, elastomeric sheet membrane designed to protect tile from cracking and/or to bridge control joints and provide waterproofing.

**Adhesive.** The adhesive, Sikadur 31, to be used is a high-strength, structural, extended life, epoxy paste adhesive. It provides excellent adhesion to concrete, masonry metals, and most structural materials.

**Grout.** The grout that will be used is C-Cure #924 is a one-part, Latex Portland cement grout. It provides the highest performance available in the industry. It is used to form a colorfast, dense matrix grout for grouting non-absorptive, semi-vitreous tiles.

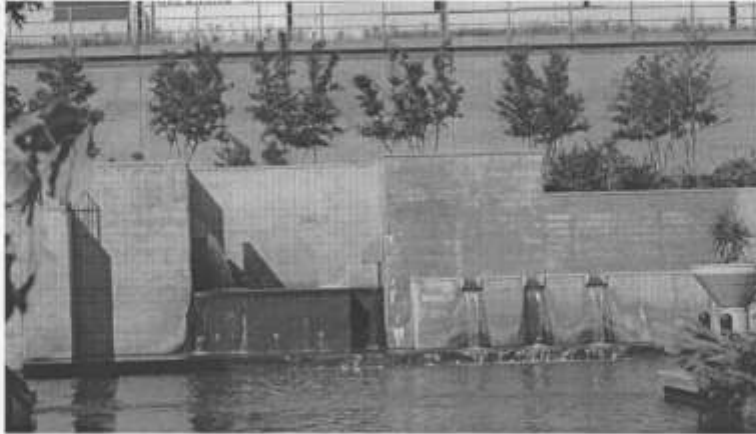
**Sealer.** The sealer to be used is from Aldon Sealers, the industry leader. It will provide a protective maintenance coat on the tiles and grout and is waterproof. The sealer is designed for commercial and industrial uses.

Additional information on the media and material, including manufacture specifications, is available.

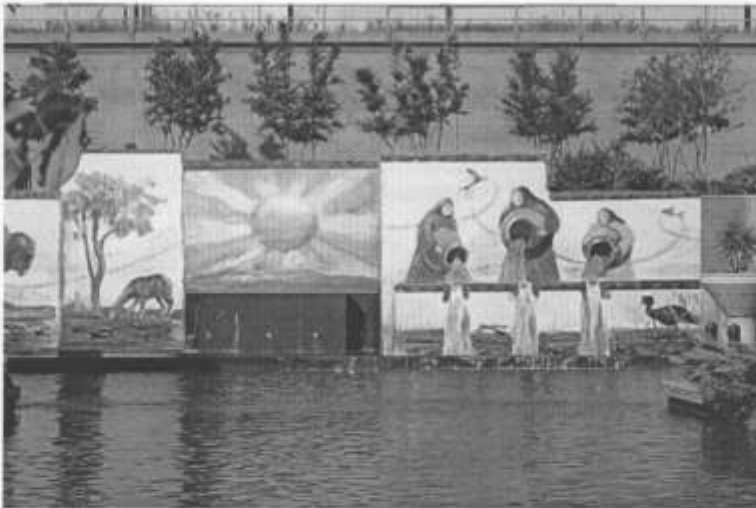
### **Long-Term Maintenance and Repair**

The long-term maintenance and upkeep is minimal. The mosaic mural may require non-pressure cleaning as needed. It may also require an inspection at least every three years to re-seal exposed areas as needed.

**Photo of Proposed Site**

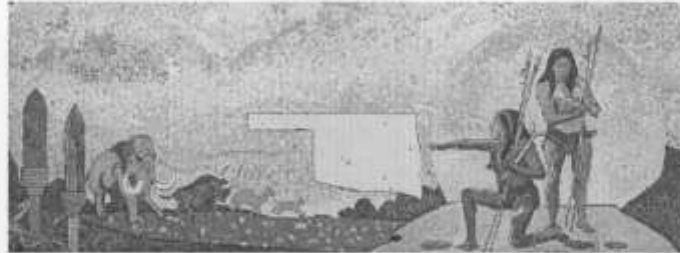


**Photo of Proposed Site with Imposed Mosaic Mural Artistic Design**





**The Oklahoma Historical Mosaic Murals at Oklahoma City  
Community College (Prof. Mary Ann Moore, Mosaicist)**





## Paragon Iguana 10% off and Free shipping! *new!*

The new smaller version of the popular Dragon kiln, the Iguana has power to spare. This results in long element life, because the elements do not struggle to reach high temperatures. Front load for easy loading. The door swings open wide on a heavy 1/2" steel rod with sealed bearings. A spring-loaded latch presses the door tightly closed. A recessed firebrick lip around the door seals in heat. The Sentry digital controller is manufactured by Orton Ceramic Foundation and includes a programmed cool-down, cone-fire and ramp-hold modes, and is capable of accepting type K, R or S thermocouples. A type K thermocouple with an Inconel sheath (for protection and longer life) comes standard. 3" brick.

✦ 240V, 45 amps, 10800 watts 60 amp breaker,

✦ True Cone 10 *(note)*

✦ 18" x 18" x 22.5" high (inside dimensions)

✦ 60 amp fuse (comes with 6-50R plug)



✦ Shipping weight 483 lbs with stand

✦ 4.2 cubic feet



Model	Type	List Price	Our Price	
Iguana	Digital Iguana	\$2400	\$2160	<a href="#">Add to Cart</a>
Furniture Kit (3 full shelves 16"x14"x5/8" thick + 1 half shelf 8"x14"x5/8"), 1" wide square posts 4 each 1/2", 1", 2", 3", 4", 5", 6" + 1 lb kiln wash)			\$165	<a href="#">Add to Cart</a>
	Optional 22" tall stand puts kiln at the perfect working height	\$300	\$279	<a href="#">Add to Cart</a>
	Optional Casters			
	Optional door elements			
	Stainless steel finish			



Orton Kiln mount vent

\* Free Shipping in Continental US. Occasionally there will be an additional charge for certain addresses with shipping surcharges (typically "out in the boondocks", or in major cities such as NYC). We reserve the right to charge this extra amount, but will notify you first for approval.

## Standard S E R I E S

CLASSIC COLORS WITH POPULAR APPEAL



## Designer S E R I E S

HIGH STYLE COLORS FOR DISCRIMINATING TASTES



## Kerency S E R I E S

PREMIUM COLORS FOR A HIGH-CLASS LOOK



The Hydrant GROUT Selector Card is the standard for color selection, manufacturing and quality control. Colors may vary due to jobsite conditions, absorption of file, mixing ratios, installation methods, or from batch to batch and therefore may differ significantly from GROUT Selector Card. While and Natural do not contain color pigments and therefore do not have color standards.

Samples depict Hydrant Ceramic Tile Grout (Sandup) and Dry Tile Grout (Unseasoned) mixed with #425 Multi-Purpose Acrylic Latex Admixture, or mixed with water, according to label instructions. Hydrant Ceramic Tile Grout when mixed with 1900 Epoxy Modified Admixture will appear darker and richer in color than when mixed with #425 Multi-Purpose Acrylic Latex Admixture. Hydrant Ceramic Tile Grout when mixed with water may appear lighter than when mixed with #425 Multi-Purpose Acrylic Latex Admixture.

### GROUT ADMIXTURE

425 Multi-Purpose Acrylic Latex Admixture may be mixed with Hydrant Ceramic Tile Grout to comply with ANSI 118.7 requirements. When mixed with grout, 425 Multi-Purpose Acrylic Latex controls the cure rate, producing excellent physical strengths, flexibility, and color uniformity, and reduces efflorescence. The addition of 425 Multi-Purpose Acrylic Latex Admixture to grout helps minimize cracking in wood framed structures and helps reduce staining because it lowers the porosity of the grout.

\*Colors available in Hydrant U-Poxy Commercial Epoxy Grout • Color name and numbers appear underneath color swatch.

# hydroment<sup>®</sup> Modified Grouts

Hydroment grouts are available in 19 Standard Series colors, 20 Designer Series colors and 7 Premium Regency Series colors.

## CERAMIC TILE GROUT (SANDED)

Hydroment Ceramic Tile Grout is a proven, high-quality blend of quartz aggregate, Portland cement, color-fast pigments and other special proprietary ingredients. It provides a joint of maximum hardness, strength, density and durability. Use Ceramic Tile Grout for joints 1/8" to 1 1/2" on all kinds of ceramic tile, ceramic mosaics, quarry tile, brick pavers and slate.

### Performance Features

- High compressive strength
- Easy clean-up
- Excellent wear resistance
- Pre-blended
- Consistent rich color
- Maximum density
- Non-shrinking

## DRY TILE GROUT (UNSANDED)

Dry Tile Grout is available in all Standard & Designer series colors (except Natural). Dry Tile Grout is ideal for narrow grout joints, 1/8" or less. Use on walls and floors for grouting marble, glazed wall tiles, ceramic mosaics, as well as semi-vitreous and non-vitreous tiles.

## U-POXY<sup>®</sup> COMMERCIAL EPOXY GROUT

U-Poxy 100% Solids Grout and Mortar System is for interior or exterior, vertical or horizontal installations. Use to grout all ceramic, quarry, porcelain, granite, slate, pre-cast terrazzo, dimension stone tiles, in joints from 1/16" to 1/2" wide. U-Poxy is the perfect choice for commercial jobs where maximum stain resistance and cleanliness are required. U-Poxy is available in 8 popular colors as indicated by the (\*) on the grout selector.



Product information also available at:  
[www.sweets.com](http://www.sweets.com)  
[www.bostikfindley-us.com](http://www.bostikfindley-us.com)

## CERAMIC TILE GROUT (SANDED)

PACKAGING: Available in 9 lb. and 25 lb. bags and 50 lb. bags.  
COVERING: 100 sq. ft. per 50 lb. bag

TILE SIZE	1/8"	3/16"	1/4"	3/8"	1/2"
1"X1/2"	48	—	—	100	—
1"X3/4"	42	—	—	88	—
2"X1/4"	32	—	—	66	—
2"X3/4"	22	—	—	43	60
3"X1/4"	17	—	—	33	42
4"X1/4"	12	—	—	24	30
4"X3/8"	10	—	—	20	27
4"X1/2"	8	—	—	16	20
4"X3/4"	6	—	—	12	15
5"X1/2"	5	—	—	10	12
5"X3/4"	4	—	—	8	9
6"X1/2"	3	—	—	6	7
6"X3/4"	2	—	—	4	5
8"X1/2"	1	—	—	3	4
8"X3/4"	1	—	—	3	4
10"X1/2"	1	—	—	3	4
10"X3/4"	1	—	—	3	4
12"X1/2"	1	—	—	3	4
12"X3/4"	1	—	—	3	4
15"X1/2"	1	—	—	3	4
15"X3/4"	1	—	—	3	4
18"X1/2"	1	—	—	3	4
18"X3/4"	1	—	—	3	4
24"X1/2"	1	—	—	3	4
24"X3/4"	1	—	—	3	4

## DRY TILE GROUT (UNSANDED)

PACKAGING: Available in 5 lb. and 25 lb. bags (in select colors only).  
COVERING: 100 sq. ft. per 50 lb. bag

TILE SIZE	1/8"	1/4"	3/8"	1/2"	3/4"
1"X1/2"	36	24	18	12	9
1"X3/4"	30	20	15	10	7
2"X1/4"	24	16	12	8	6
2"X3/4"	18	12	9	6	4
3"X1/4"	14	9	6	4	3
4"X1/4"	10	6	4	3	2
4"X3/8"	8	5	3	2	1
4"X1/2"	6	4	2	1	1
4"X3/4"	4	3	2	1	1
5"X1/2"	3	2	1	1	1
5"X3/4"	2	1	1	1	1
6"X1/2"	2	1	1	1	1
6"X3/4"	1	1	1	1	1
8"X1/2"	1	1	1	1	1
8"X3/4"	1	1	1	1	1
10"X1/2"	1	1	1	1	1
10"X3/4"	1	1	1	1	1
12"X1/2"	1	1	1	1	1
12"X3/4"	1	1	1	1	1
15"X1/2"	1	1	1	1	1
15"X3/4"	1	1	1	1	1
18"X1/2"	1	1	1	1	1
18"X3/4"	1	1	1	1	1

SHORT FORM SPECIFICATIONS—MATERIAL: Ceramic Tile Grout shall meet CRD C-821-02 and ANSI A118.6-1999, a blended mixture of portland cement, color-fast pigments, high-strength aggregates (including carefully graded quartz aggregate #7 on the M.O.H. Scale of Hardness) and other selected ingredients to ensure proper curing. The color shall be #.

Meets Army Corps of Engineer's Specifications CRD-621 for non-shrink grouts. Complies with ANSI A118.5-1999.

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# ***NOBLE DECK™ INSTRUCTIONS***



## **1. GENERAL**

**Noble Deck** may be used in areas over occupied space for waterproofing as well as crack isolation and joint bridging. When used for waterproofing, sheets must be seamed (see Section 4) and entire area covered. When incorporated into thin-bed installations for ceramic or stone tile, the bonded sheet is typically less than 1/8".

**NOTE:** Install in strict compliance with these instructions, and comply with all applicable ANSI standards and TCA recommendations.

**1.1 PRODUCT:** **Noble Deck** is a thin 1.0mm (.040") bonded load bearing sheet membrane for waterproofing. Rated for "Extra Heavy" performance by ASTM C 627 (Robinson Test).

**1.2 PROPERTIES:** **Noble Deck** is a composite sheet made from an alloy of Chlorinated Polyethylene (CPE) with non-woven fabric laminated to both sides. **Noble Deck** is formulated specifically for exterior applications.

### **1.3 DECKS:**

- A. **Concrete:** Areas without walls or curbs must have sheet installed over edge. Flash all walls, curbs and doorways.
- B. **Wood Decks:** Wood is not recommended as a substrate for exterior applications due to expansion and contraction.\*

\* **NOTE:** **Noble Deck** can only protect the side on which it is applied. The opposite side and/or edges *will* absorb moisture, which may adversely affect the tile installation.

**CAUTION:** *Exterior decks require evaluation by a licensed architect or structural engineer before installing tile.*

**1.4 PROCEDURE:** To incorporate **Noble Deck** into a thin-bed installation. Prepare substrate and select bond coat in accordance with TCA Handbook recommendations and ANSI A108 standards for the particular application (as if membrane were not being used).

**NOTE:** Review all detail drawings, Figures 1 through 5.

**1.5 BOND COAT:** Install sheet with a factory prepared and packaged bonding agent recommended by bond coat manufacturer for an exterior application.

**1.6 LAYOUT:** Install sheet so that seams overlap in the direction of the slope (shingled fashion). Use chalk lines to maintain sheet alignment.

**1.6.1 DRAINAGE:** Wet areas should have proper slope.

**CAUTION:** *All drains must have a suitable membrane clamping device.*

**NOTE:** Comply with current TCA Detail EJ171 for exterior joint placement.

**1.7 INSTALLER:** Must be familiar with The Noble Company's current written instructions, TCA Handbook recommendations and ANSI A108 standards. On specified projects, contractor must be experienced with installation procedures for Noble Company products or be instructed by a Noble Company representative prior to commencing work.

**>>>>>RECOMMENDED:** Test material and method under job-site conditions to confirm suitability. For waterproofing applications, test area by flooding before installation of tile.

**NOTE:** For any procedure not covered by these instructions, contact The Noble Company.

## **2. MATERIALS**

**2.1 MEMBRANE:** Quantity of **Noble Deck** sheet required is equal to the amount of tile estimated, including waste and allowing for upturns and seams. Use performed corners as necessary.

**2.2 SHEET WIDTH:**  
1.8m x 15.2m = 27.9m<sup>2</sup> (6' x 50' = 300 sq. ft.)

**2.3 SEAMING AND JOINING:** Use **NobleSealant 150** to join sheets (refer to paragraph 4 of these instructions for details).



**2.4 SHEET BOND COAT:** Noble Deck should be bonded by an exterior type latex-portland cement mortar. Bonding agent must conform to the appropriate ANSI standards, TCA Handbook recommendations, and bonding agent manufacturer's directions.

**NOTE:** Job-site mortar mixes must conform to ANSI A108.5 and A118.4 and to latex supplier's instructions.

>>>>Most bonding agents will adhere to the fabric on **Noble Deck**.

**2.5 INSTALLATION METHODS:** Sheets may be installed as waterproofing and/or to protect tile from cracking.

- A. **Bonded:** Directly to substrate or bond to fully cured mortar bed.
- B. **Loose-Laid:** (Waterproofing/Cleavage Membrane) under full mortar bed.
- C. **Combination:** Thin-bed and mortar bed methods, i.e., floor and wall (See TCA Detail SR 613 for steam rooms).
- D. **Crack/Joint Bridging:** (Not waterproofing) Refer to **NobleSeal CIS** instructions.

**2.6 WATERPROOF SEALANT:** Use **NobleSealant 150** to seam sheets, seal penetrations (i.e., pipes, wire), drains and terminal edges by bedding sheet edges into minimum 1/2" wide bead of sealant. Seal cut corners or bond preformed corners to sheet (see Figure 5).

**2.7 TOOLS:** Normal tile setting tools, plus scissors or snips, rubber hand roller, linoleum roller (recommended 100 lbs.) and commercial hot-air gun.

**NOTE:** Use hot-air gun to shape, mold or stretch membrane.

### 3. PROCEDURES

**3.1 INSPECTION:** Determine that the substrate conforms to ANSI A108 standards. Report in writing any deficiencies that might affect performance of the system.

**3.2 BONDING SHEET TO SUBSTRATE:** Clean and prepare substrate as if thin setting tile without sheet. Generally, a flat floor makes it easier to install the sheet. Use cementitious leveling compounds before installing sheet.

**3.2.1** Use exterior grade bonding agent recommended by manufacturer. Lift sheet after rolling to see that adhesive has transferred to cover sheet completely.

**NOTE:** Variation in trowel size, angle at which trowel is held, mixing ratio or any combination thereof may be necessary to achieve maximum contact.

**3.2.2** On flat substrate, spread thin-set bond coat with a 1/8" x 1/8" V-notched trowel. Trowel an area as wide as the sheet and as deep as can be comfortably reached. In order to avoid trapping air under the sheet, trowel mortar in parallel rows across the width or length of the sheet. Unroll sheet continuously into bond coat before it begins to form "skin". If skinning occurs, remove thin-set mortar and replace.

**NOTE:** After installation, sheet must be kept clean to enable tile to bond. If necessary, skim coat or clean with vacuum.

**Normal installation conditions:** spread bond coat with a 1/8" x 1/8" V-notched trowel. Trowel an area as wide as the sheet and as deep as can be comfortably reached (comb parallel).



**Embed Noble Deck into bond coat.** For horizontal areas, use linoleum roller (recommended 100 lbs.). Work from center of sheet to edges.



**NOTE:** Control high temperature by shading, misting substrate with water, working at night or any combination of these techniques. Fine notched trowels increase "skinning" rate.

**3.2.3** To prevent outer edges from lifting, curling or drying prematurely, use weight, i.e., tile boxes or mortar bags. Screen work area from wind.

**3.2.4** Embed **Noble Deck** into bond coat (flatten all trowel ridges). For horizontal areas, use 100 lb. roller. Work from center of sheet to edges. Pull roller edge-to-edge in overlapping passes. Start at end of first sheet installed, progressing to area installed last. A small hand roller or straight edge may be used to remove air pockets in areas where larger roller will not fit. Use rubber hand roller or trowel flat with heavy pressure on vertical surfaces.

**3.2.5** Complete coverage of substrate and full penetration of bond coat into the fabric is required. Prior to curing, lift sheet and inspect for full contact. If rows or ridges of bonding agent are seen, additional rolling or bond coat is necessary.

### 4. SEAMING AND JOINING

(For Waterproof Installations)

When more than one sheet is needed, use **NobleSealant 150** to seam sheets together. Apply with a commercial grade caulk gun.

>>>>**ESTIMATE:** 1/8" diameter bead yields 150 linear feet (10.3 oz. tube). 3/16" diameter bead yields 70 linear feet.

>>>>**PROCEDURE**

**4.1** Overlap sheets 50mm (2") minimum.

**NOTE:** Do not remove polyester fabric.

**4.1.1** Apply 3mm (1/8") bead 6mm (1/4") from edge of sheet being overlapped.

**4.1.2** Apply another bead of sealant parallel and 12mm (1/2") from the first bead.

**4.1.3** Overlap sheets and flatten with roller or by pressing with trowel.

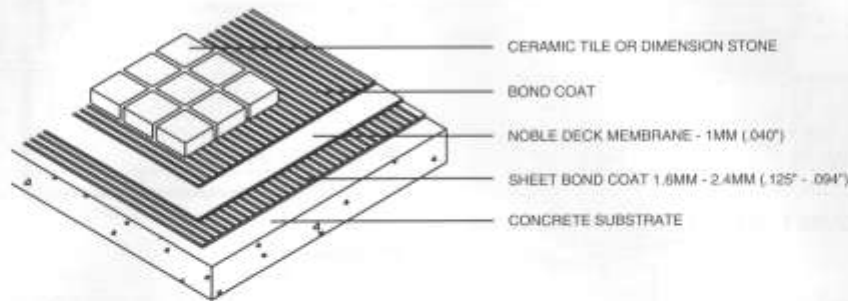
**NOTE:** Beads must be continuous without skips or voids.

**Apply 1/8" bead of NobleSealant 150 1/4" from edge. Apply 2nd bead 1/2" from first bead. Overlap sheets 2" and compress with hand roller or trowel.**





## ***NOBLE DECK™ SYSTEM*** FOR EXTERIOR APPLICATIONS



### **5. FLASHING AND CORNERS**

**5.1** Turn sheet up vertical surface 1" to 2" higher than flood level or top of trim unit.

**5.2** Use manufacturer recommended thin-set mortar. For non-porous or metal substrate, use **NobleSealant 150**.

**5.3** Lap corners (see Figure 5 for details). Bond overlap and seal inside joint with **NobleSealant 150**. Seal cut corners with **NobleSealant 150** (see 2.6 for other details).

**5.4** If preformed corners are used (see Figure 5), they may be bonded to sheet and /or substrate with **NobleSealant 150**.

### **6. DRAINS**

All drains must have clamping ring to secure membrane to drain body. Inspect floor to insure that proper slope has been provided to eliminate ponding of water on top of membrane. Install sheet over sloped fill as follows:

**6.1** Remove strainer and clamping ring.

**6.2** Place **Noble Deck** over drain body. Press membrane to feel outline of drain. Cut drain opening.

**6.3** Carefully punch or notch openings for clamping ring bolts through sheet.

**6.4** Apply bead of **NobleSealant 150** on the drain lip under the **Noble Deck**.

**6.5** Install sheet, see paragraph 2.5.

**6.6** Reset clamping ring and firmly tighten bolts.

**6.7** Replace strainer and adjust to proper height for tile.

### **7. INSTALLING TILE**

**7.1** Set tile in accordance with TCA Handbook recommendations, ANSI A108 standards and bond coat manufacturer's directions. Complete penetration of fabric by the bond coat is required.

**>>>>CASE 1: RECOMMENDED FOR SMALL PROJECTS WHICH MUST BE FINISHED IN ONE TRIP.** Install tile immediately on **Noble Deck** while sheet bond coat (under sheet) is still plastic (before bond coat begins to cure).

**NOTE:** Rapid-curing type of thin-set mortar may be used with approval of mortar manufacturer.

**>>>>CASE 2: INSTALL TILE AFTER BOND COAT HAS CURED.** Refer to bond coat manufacturer's instructions for cure time and allow an additional 50% when installed under **Noble Deck** sheet.

### **8. PROTECTION OF SHEET**

If not covered by wearing surface within 48 hours, protect the installed sheet from damage and all foot or vehicular traffic (use mortar skim coat, rugs, plywood, etc.).

### **9. OTHER APPLICATIONS**

There is a **NobleSeal® CPE** (Chlorinated Polyethylene) membrane designed to protect ceramic and stone tile installations in new or renovation projects from substrate cracks, bridge joints to protect the integrity of design patterns, reduce sound transmission through floors and waterproof steam rooms and other critical areas. All have been rated for "Extra Heavy" performance by ASTM C 627 (Robinson Test). For more information or to discuss the particulars of your project, contact The Noble Company.

### **10. WARRANTY**

**Noble Deck** brand CPE membrane is guaranteed for 10 years by The Noble Company against failure caused by rotting, cracking and microorganism deterioration when properly installed in tile systems for which its use is recommended by The Noble Company. This warranty is limited to replacement of defective material and freight charges to destination only. There are no other expressed or implied warranties, and this warranty is in lieu of any other warranty, including, but not limited to, implied warranties of merchantability and fitness for purpose. The Noble Company is not responsible for consequential damages. The remedy of the purchaser set forth herein is exclusive.



## DECK DETAILS

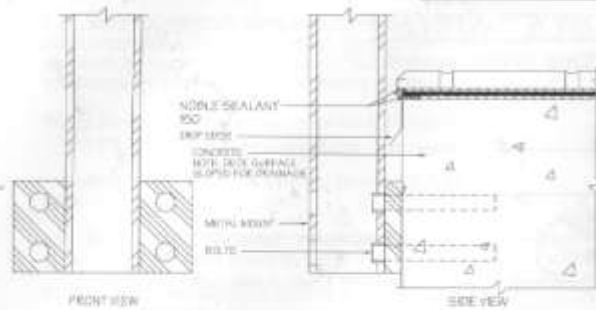


FIGURE 1 - HAND RAIL MOUNTING DETAIL

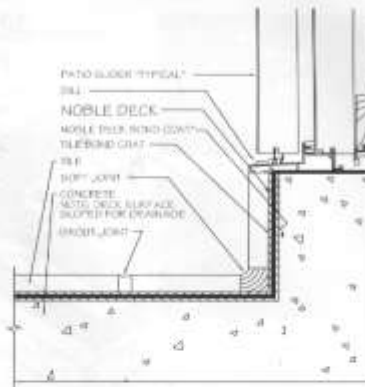


FIGURE 2 - SLIDING DOOR DETAIL

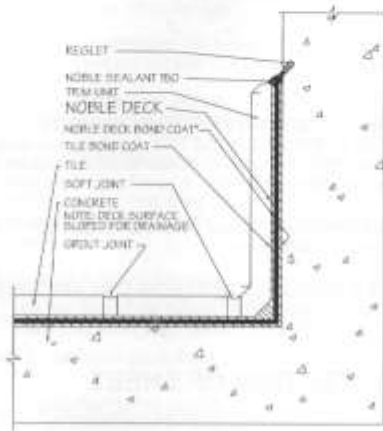


FIGURE 3 - PARAPET DETAIL

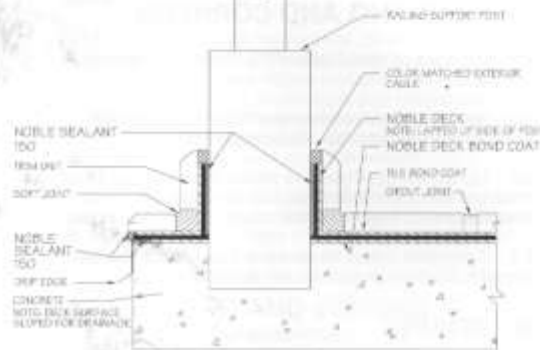
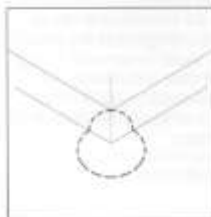


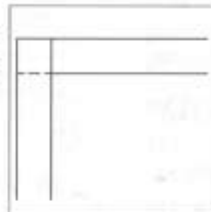
FIGURE 4 - NOBLE DECK POST & EDGE DETAIL

FIGURE 5 - CORNERS



OUTSIDE

**STEP 1.**  
CREASE SHEET  
(SOLID LINES).  
CUT SHEET ON  
DOTTED LINE



LAP

**STEP 2.**  
FOLD, BOND & SEAL  
(INCLUDING INSIDE  
JOINT) WITH  
NOBLESEALANT 150

**NOTE: NOBLE DECK MUST BE INSTALLED IN COMPLIANCE WITH APPROPRIATE ANSI STANDARDS AND TCA RECOMMENDATIONS.**

These suggestions and data are based on test results The Noble Company believes to be reliable. Users should verify by tests that this product, as well as these methods, are suitable with the products being used in their application. Since specific use, materials and handling are not controlled by The Noble Company, this warranty is limited to the replacement of defective Noble Company products. The Noble Company disclaims any responsibility for (a) warranties of merchantability and fitness for purpose; (b) verbal recommendations of its representatives; and (c) consequential damages.

**Additional product information is available 24 hours a day, 7 days a week at [www.noblecompany.com](http://www.noblecompany.com) or by calling Fast Fax, our automated Fax Back System (1-800-272-1519).**

**THE NOBLE COMPANY**  
P.O. Box 350, Grand Haven, MI 49417-0350  
7300 Enterprise Drive, Spring Lake, MI 49456  
Phone: 800-878-6788 Fax: 800-272-1519  
[www.noblecompany.com](http://www.noblecompany.com)

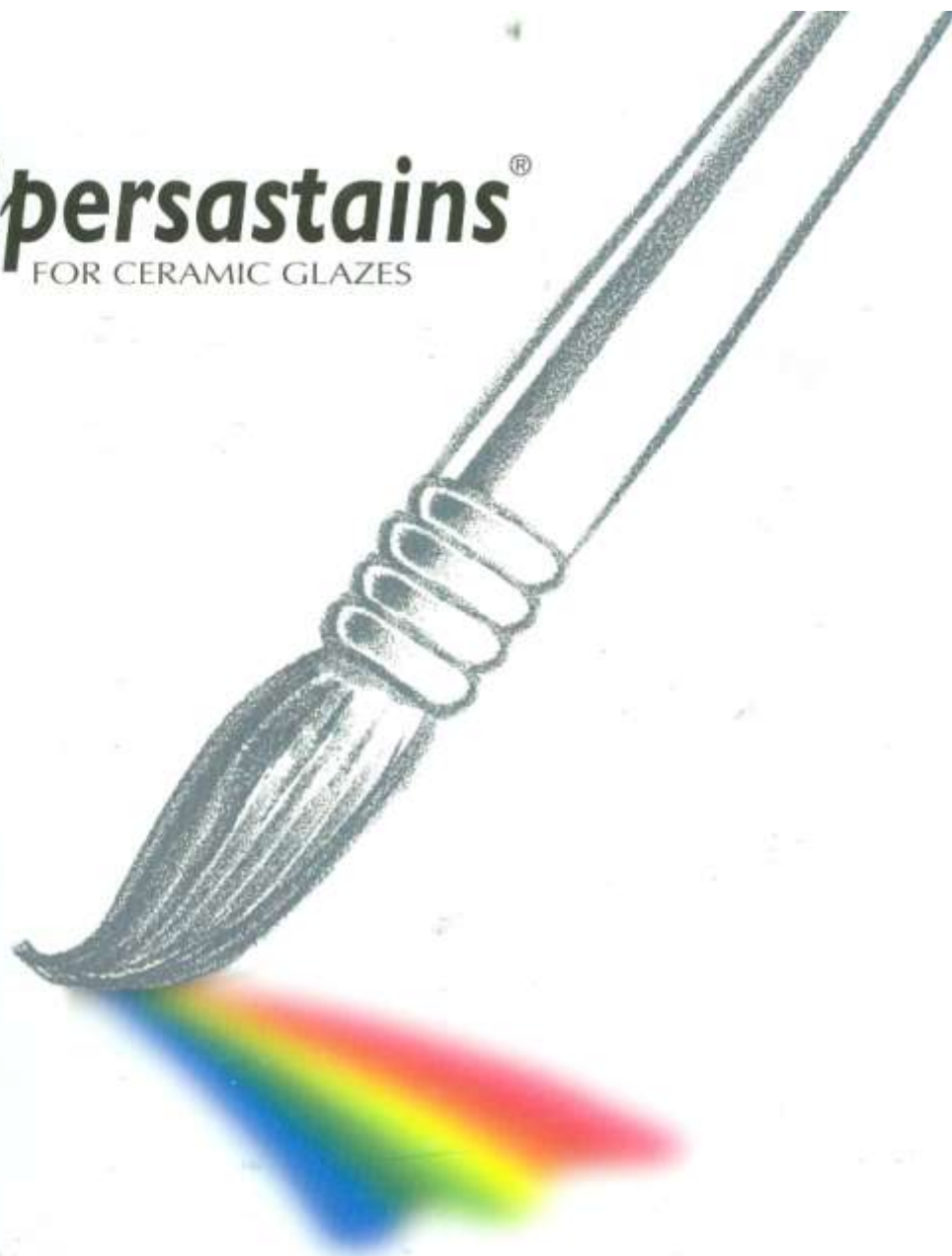


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# Spersastains<sup>®</sup>

FOR CERAMIC GLAZES





#### TYPICAL PROPERTIES

SPIERSASTINS® NUMBER	COLOR	MAJOR ELEMENTS	SPECIFIC GRAVITY	RETAIN ON 325 MESH	CONE TEMP. RANGE	pH	COLOR INDEX NUMBER	COLOR INDEX PIGMENT NAME	CAS NUMBER
41117A	Black	CoCrFeNi	5.4	0.2%	06-12	7.4	77502	Black 27	68186-97-0*
41776 A	Black	CrFe	5.5	0.2%	06-12	7.4	77502	Black 27	68186-97-0*
41565 A	Black	CrFeMnNi	5.4	0.2%	06-12	8.2	77504	Black 30	71611-15-7*
41157 A	Gray	CoNiZrSi	5.1	0.1%	06-12	8.0	77332	Black 25	68186-89-0*
41629 A	Gray	CoNiZrSi	5.4	0.1%	06-12	7.8	77332	Black 25	68186-89-0*
41166 A	Gray	CoNiZrFeCr	5.0	0.1%	06-12	7.6	77332	Black 25	68186-89-0*
41590 A	Yellow	ZrVtFe	5.6	0.1%	06-12	9.4	77991	Yellow 160	68187-01-9*
41719 A	Yellow	ZrVtFe	5.2	0.2%	06-12	9.4	77991	Yellow 160	68187-01-9*
41545 A	Yellow	ZrPSi	4.7	0.1%	06-12	8.1	77997	Yellow 159	68187-15-5*
41720 A	Yellow	ZrPSi	4.7	0.1%	06-6	7.5	77997	Yellow 159	68187-15-5*
4144 A	Crimson	CrSeCaSi	4.1	0.1%	06-12	8.9	77301	Red 233	68187-12-2*
41188 A	Pink	CrSeCaSi	3.9	0.1%	06-12	9.4	77301	Red 233	68187-12-2*
41342 A	Pink	CrAlZn	4.4	0.2%	06-12	8.4	77290	Red 235	68201-65-0*
41596 A	Coral	ZrFeSi	4.3	0.2%	06-12	6.6	77996	Red 232	68187-13-3*
41597 A	Coral	ZrFeSi	4.8	0.2%	06-12	6.6	77996	Red 232	68187-13-3*
4028 A	Blue	CoSi	4.1	0.1%	06-12	9.3	77364	Blue 73	68187-80-6*
4053 A	Blue	CoAl	4.3	0.1%	06-12	9.4	77346	Blue 28	68186-86-7*
41715 A	Turquoise	ZrVSi	4.7	0.1%	06-12	7.0	77998	Blue 71	68186-95-0*
41330 A	Blue	CoAlO	4.9	0.1%	06-12	6.9	77343	Blue 36	68187-11-1*
41172 A	Green	CoOMgAlZn	5.0	0.1%	06-12	7.3	77344	Green 26	68187-49-5*
41367 A	Green	CrAlCo	4.9	0.1%	06-12	6.9	77343	Blue 56	68187-11-1*
5151 A	Brown	CrFeZn	5.3	0.1%	06-12	8.5	77503	Brown 33	68186-88-9*
4146 A	Brown	CrFeZn	5.2	0.1%	06-12	8.5	77503	Brown 33	68186-88-9*
41542 A	Brown	CrFeAlZn	5.0	0.1%	06-12	8.0	77503	Brown 33	68186-88-9*
41188 A	Tan	CrFeAlZn	4.9	0.8%	06-12	8.1	77503	Brown 33	68186-88-9*
41721 A	Brown	CrFeZn	5.4	0.1%	06-12	7.7	77503	Brown 33	68186-88-9*
41750 A	Brown	CrFeZn	4.9	0.1%	06-12	7.9	77503	Brown 33	68186-88-9*
41831 A	Peach	ZrFeSi	4.8	0.2%	06-12	5.0	77996	Red 232	68187-13-3*
41834A	Coral	ZrFeSi	4.8	0.2%	06-12	5.0	77996	Red 232	68187-13-3*

## INTRODUCTION

Cerdec, a 1993 joint venture of the Ceramic Colors and Special Products Division of Degussa AG and the Drakenfeld Colors Division of Ciba Corporation, is a global leader in the manufacturing and marketing of a broad and diverse product line of superior quality inorganic colorants, decorative and functional coatings, and additives for the ceramic, glass, plastic and paint industries.

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Cerdec introduces new ceramic colors and products on a regular basis to meet the needs of the ceramic industry. We were the first to introduce the dry dispersible ceramic stains, SPERSASTAIN.

Superior "lot-to-lot" consistency of SPERSASTAINS have kept them the dry dispersible stain of choice since their introduction in 1988. We offer an extensive palette of SPERSASTAINS and this brochure features some of our best and most popular.

Why are SPERSASTAINS so popular?

SPERSASTAINS can save YOU  by:

- Reducing waste from glaze color changes in ball mills.
- Reducing water requirement by using less wash water.
- Helping with pollution abatement.
- Allowing direct mixing into base glaze systems.
- Allowing direct mixing for glaze color corrections.
- Working with conventional industry equipment.
- Requiring less energy and time to disperse.

## QUALITY, SERVICE AND TECHNOLOGY

Cerdec's commitment to quality is evidenced by being the first stain producer in the United States to receive ISO 9001 Certification. Our SPERSASTAINS and other ceramic stains are subject to rigid quality control procedures. Each production lot is tested and certified in the customer's glaze, when possible, or in a similar glaze against a Master Standard under controlled firing conditions.

Our inventory system is designed and managed so standard products are available immediately. We are committed to unequalled customer satisfaction and continuous improvement by employee participation and teamwork with our customers.

Cerdec offers advanced computer color-matching technology in order to achieve the most cost effective formulae. Cerdec can also use this technology to reduce your stain inventories. Cerdec invests in active product development programs and closely monitors design trends around the world.

Each of the two partners involved in Cerdec has served the ceramic industry for well over a century. Through this synergy, a new world of technological possibilities and innovative products has been opened for today, tomorrow and well into the 21st century.



41117 A  
Black



41276 A  
Black



41565 A  
Black



41220 A  
Yellow



4144 A  
Crimson



41186 A  
Pink



41330 A  
(Ceres) Blue



41172 A  
(French) Green



41367 A  
(Forest) Green



41833 A  
Peach



41834 A  
Coral

## SAFETY AND HANDLING

For complete and updated safety and handling information, see the Material Safety Data Sheet for each product.

Do not use or handle until the Material Safety Data Sheet has been read and understood.

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact.

Wash thoroughly after handling and before eating, drinking, or using tobacco products.

Use with adequate, localized ventilation.

Wear NIOSH-approved dust respirator for potentially dusty handling operations.

**For industrial use only.**

## FIRST AID

**In case of contact:**

**Eyes:** Immediately flush eyes with water for at least 15 minutes.

**Skin:** Wash with mild soap and water. Call a physician.

**Ingestion:** If conscious, give plenty of water to drink. Get medical attention.

**Inhalation:** Remove to fresh air. Call a physician.

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**Cerdec Corporation**  
**Drakenfeld Products**  
P.O. Box 519  
West Wylie Avenue  
Washington, PA 15301  
Tel.: (412) 223-5900  
Fax: (412) 228-3170

## MAJOR FACILITIES

### USA

Cerdec Corporation, Drakenfeld Products  
West Wylie Avenue, Washington, PA 15301  
Tel. 412-223-5900 ■ Telefax 412-229-5358

### MEXICO

Cerdec Mexico, Calzada Mexico-Xochimilco  
No. 5149, Cpl. Arenal/Del. Tlalpan  
Apartado Postal 22-252, 14610 Mexico, D.F.  
Tel. (0 05 25) 673 13 70 ■ Telefax (0 05 25) 673 10 16  
Telex 017-64 385 ■ cable DEGLISME MEXICO

### GERMANY

Magmalor GmbH  
Furtweg 19, D-7242 Colditz/Sachsen  
Tel. Colditz 6419/6401 ■ Telefax Colditz 467  
Telex 512960

### GERMANY

Cerdec AG, Keramische Farben  
Postfach 11 05 33, Gütlestr. 215, D-6000 Frankfurt 11  
Tel. (0 69) 218-03 ■ Telefax (0 69) 218-6270  
Telex 41222-0 dtg d

### ITALY

Cerdec Italia S. p. A.  
Via R. Giuliani 360a, (C.P. 343), I-30100 Firenze  
Tel. (0 55) 45 58 21 ■ Telex 5 70 324  
DEGGER I

### BRAZIL

Cerdec Produtos, Cerâmicos Ltda.  
Av. São Jerônimo, nº 6000  
Caixa Postal 1013, 13465-990 - Americana - SP - Brasil  
Tel. (0194) 61-96 37 ■ Telefax (0194) 61-2224/61-97 67

### FRANCE

Cerdec France S.A.  
2, Av. President John Kennedy  
Boîte Postale 540, F-87011 Limoges Cedex  
Tel. 35 30 44 44 ■ Telex 5 80 925  
DPCIMG ■ Telefax 35 06 05 63

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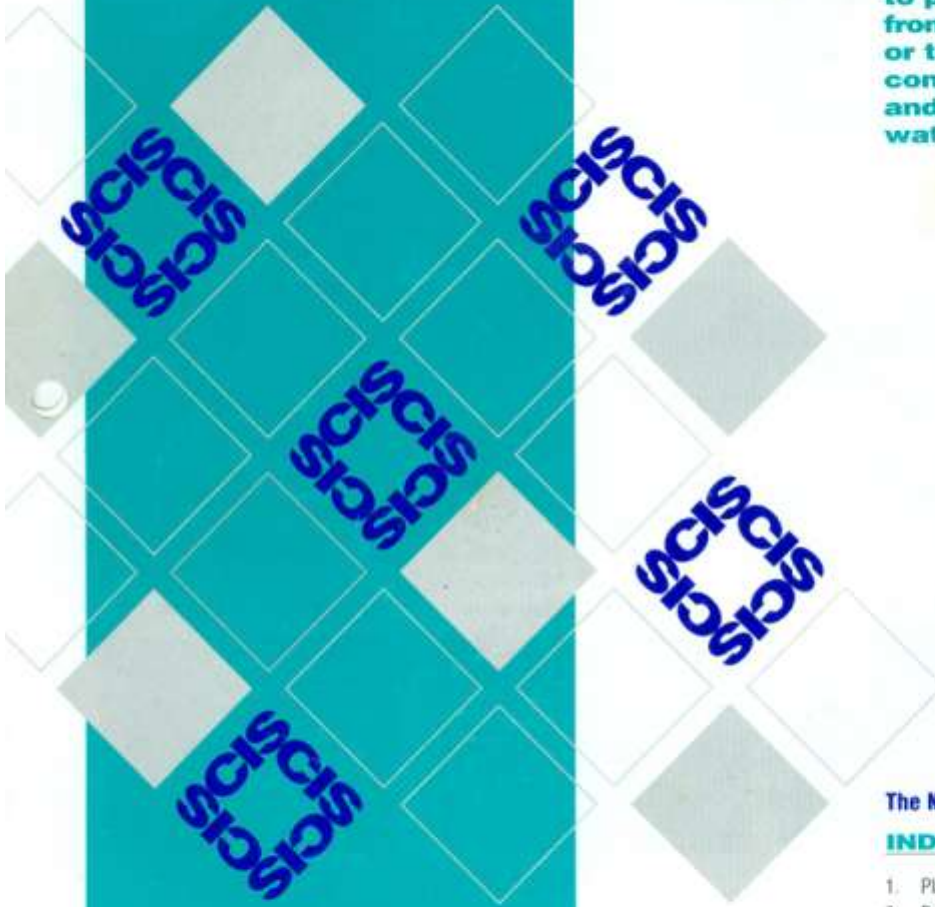
Cerdec Ibérica, S.A.  
Paseo San Juan 75, E-08009 Barcelona  
Tel. (3) 2 07 47 51 ■ Telex 9 7 089 DEIP E  
Ctra. Nacional 340, km 44, 7  
E-12520 Nules, (Castellón)  
Tel. (64) 67 28 11 ■ Telex 6 5 458 DEIP E



**INSTALLATION  
INSTRUCTIONS**

# NobleSeal® CIS

**A sheet system  
to protect tile  
from cracking  
or to bridge  
control joints  
and provide  
waterproofing**



## **The NobleSeal CIS System**

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3. Sheet Bond Coat	3
4. Sheet Installation	3
4.1. Bridging Cracks or Joints	3
4.2. Waterproofing	3
4.3. Seaming Procedure	3
5. Bridging Control Joints	4
6. Tile Installation	4

### THE NOBLESEAL CIS SYSTEM:

NobleSeal CIS is a composite sheet membrane that is designed to isolate a tile surface from the damaging effects of substrate movement. With proper installation, CIS can reduce tile cracking and other damage, but CIS may not eliminate all the problems associated with substrate movement transferring to the tile or grout.

The unique physical properties of Chlorinated Polyethylene (CPE) which allows it to absorb stress internally does have a limit. Refer to physical properties and test results published in NobleSeal CIS Product Data.

These same physical properties lend themselves to installations where it is desirable to bridge substrate control joints to avoid cutting tile and interrupting tile designs.

This sheet may be installed by a thin-bed method directly on a properly prepared substrate or over a cured, reinforced mortar bed.

To make area waterproof using CIS, overlap all edges 25 mm (1") and use NobleSealant 150 for seaming. Refer to 4.2 for details.

Figure 1. The NobleSeal CIS System



- A. CERAMIC, AGGLOMERATED, TERRAZZO TILE OR DIMENSION STONE
- B. THIN-BED BOND COAT APPROPRIATE FOR APPLICATION
- C. NOBLESEAL CIS MEMBRANE - .8MM (.032")
- D. SHEET BOND COAT 16MM - 24MM (.63" - 1.32")
- E. SUBSTRATE: CONCRETE, PLYWOOD OR CEMENTITIOUS JACKER UNIT (CRU)

### Renovation of Cracked Substrates:

**General Conditions:** Substrate must meet requirements set forth by the Tile Council of America Handbook for Ceramic Tile Installation and ANSI A108 and A118 standards. While the primary function of the sheet is crack isolation, this does not preclude normal industry practices or requirements – including joint placement. Use of this system to bridge cracks or construction joints with tile may not be an absolute solution.

#### 1. Planning/Estimating

Sheet sizes available:

- 0.6m x 15.2m (2' x 50') roll = 9.3m<sup>2</sup> (100 sq. ft.)
- 0.9m x 15.2m (3' x 50') roll = 13.9m<sup>2</sup> (150 sq. ft.)
- 1.2m x 15.2m (4' x 50') roll = 18.6m<sup>2</sup> (200 sq. ft.)
- 1.8m x 15.2m (6' x 50') roll = 27.9m<sup>2</sup> (300 sq. ft.)

**Note:** Refer to NobleSeal TS Instructions if waterproofing as well as crack isolation is required.

- 1.1 Estimate:** Three (3) times the tile size or more to allow for meandering of cracks and extend two (2) tiles beyond crack (See 1.2).

Figure 2. Plan View



#### 1.2 Sheet Width Required:

Tile Size	Sheet
20.3 cm x 20.3 cm (8" x 8")	24" minimum
30.4 cm x 30.4 cm (12" x 12")	36" minimum
40.6 cm x 40.6 cm (16" x 16")	48" minimum
60.9 cm x 60.9 cm (24" x 24")	72" minimum

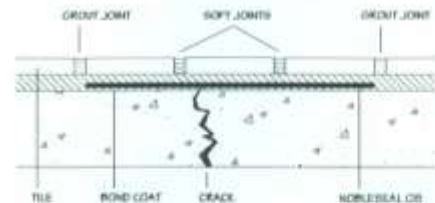
- 1.3 Sheet Layout:** Plan to install correct width of NobleSeal CIS in continuous strip.

- 1.3.1** To cover areas wider than one sheet width, butt the sheets tightly.
- 1.3.2** When lower elevation is required and/or when edges do not align, first overlap then make a single cut through overlap to produce a tight butt joint (see Figures 2 and 4).

#### SITUATION A: Isolated Cracks

- A.1** The width of the sheet must equal the tile bridging the crack or control joint, plus one full tile on each side.
- A.2** For tile under 20.3 cm x 20.3 cm (8" x 8"), use a minimum 61 cm (24") width.
- A.3** For tile 20.3 cm x 20.3 cm (8" x 8") or larger, width must equal the tile bridging the crack or control joint, plus one full tile on each side (see Figure 3).

Figure 3. Crack Isolation - Cross Section



**NOTE:** SHEET WIDTH - 3 TILES MINIMUM (ONE FULL TILE OVER CRACK PLUS ONE ROW ADJACENT TO CRACK)

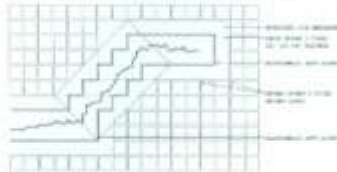
**Note:** In extensively cracked areas, it may be more cost effective to remove all the tile and cover the affected area with sheeting. For other considerations, refer to Situation B.



**SITUATION B:  
Multiple or Webbed Cracks**

**B.1 Large Projects:** A combination of fully covered areas and strips may be more feasible than using one method exclusively.

Figure 4. Sheet Placement and Soft Joint Plan



**Note:** NobleSeal CIS will not compensate for structural deficiencies in the substrate.

**2. Preparation**

- 2.1** Remove cracked tile and one row of adjacent tile (refer to appropriate detail).
- 2.2** Inspect and renovate substrate to comply with ANSI standards as if sheet were not being used.
- 2.3** Determine that surfaces adjoining cracks are level (see Figure 5).

Figure 5. Substrate - Cross Section



- 2.4** To restore level:
  - Fill the low side with a cement based floor preparation compound recommended for this purpose.
  - Grind the higher surface.
  - Use a combination of these methods
- 2.5** **Depression:** Floors with depressions may cause sheet to bridge over these depressions. Remedy by leveling the floor or filling the depression prior to installation of sheet.

**3. Sheet Bond Coat**

**Recommended:** NobleBond 21 (a latex-based adhesive). This one-part, ready-to-use adhesive allows the sheet to stretch more than cement based mortars. It also allows tile to be installed immediately after sheet placement as it does not require further curing. Refer to NobleBond 21 Installation Instructions on container label.

**Alternate:** Acrylic or polymeric modified thin-set mortar including rapid curing types which are recommended by the manufacturer for this application and meet ANSI A118.4 standard.

Spread appropriate bond coat with correct trowel in an area approximately 1.8m<sup>2</sup> to 2.1m<sup>2</sup> (6 to 8 square feet) and immediately unroll sheet into tacky bonding agent before skin can begin to form. If skinning over occurs, remove original application and re-spread fresh bond coat.

**Suggestion:** Comb all thin-set parallel to allow air to escape from under the sheet when rolled.

**3.1 BOND COAT TOOLS:**

**Purpose:** Deposit sufficient amount of sheet bonding material to make full contact between sheet and substrate. If material is forced out from under sheet, reduce amount or adjust angle of trowel.

- A. NobleBond 21: Use Frieze Roller or 1/2" Nap.
- B. Thin-set mortar: 3.2m-6.4m (1/8"-1/4") "V" notched trowel.

**Note:** Use of the finer notched trowels will cause mortar to form a "skin" faster.

**4. Sheet Installation**

**4.1 FOR BRIDGING CRACKS OR JOINTS:**

**Recommended:** Use NobleSeal CIS sheet of minimum required width (three (3) times tile size). Refer to the correct SITUATION, A (page 2), or B (page 3).

**Alternate:** NobleSeal TS may be substituted providing the prepared seam 50.8mm (2") is removed from both edges and discarded. Sheet must be cut to width required (see 1.2).

**Note:** All ridges of bond coat must be parallel to allow air under sheet to escape when embedding (see Figure 8).

**Sheet Contact:** Complete coverage of sheet with bonding material on substrate side and full penetration of bond coat into the fabric is required. Lift sheet and inspect for full contact. Additional rolling and/or bond coat may be necessary.

**CAUTION:** Do not disturb cementitious thin-set bond coat once curing process has begun.

**4.2 FOR WATERPROOFING AREAS LARGER THAN ONE LENGTH OR WIDTH:**

Provide required slope to drain. Cover entire area plus flashing and allow 25mm (1") for seaming.

**4.3 SEAMING PROCEDURE:**

Use NobleSealant 150 to make seams without removing the polyester fabric.

1. Apply 3.175mm (1/8") bead of NobleSealant 150 6.35mm (1/4") from edge.
2. Apply a second continuous bead 12.70mm (1/2") from first bead.
3. Overlap sheet 25.40mm (1") and flatten beads with roller or trowel.

**4.4 Sheet Continuity:** Center proper width sheet over crack (see 1 to 1.3.2). When more than one sheet is required (width or length), butt edges tightly or overlap and make single cut through overlap to produce a tight butt joint (see 1.3.2).

**4.5 Embedding Sheet:** To insure full contact with fabric, use a roller.

**Large Areas:** A 100 lb. roller is recommended.

**Small Areas:** May be embedded by heavy pressure on flat side of trowel, straight edge, hand roller or pool trowel. Embedding procedure must flatten all bond coat trowel ridges.

**4.6 Sheet Thickness (0.8 mm or 1/32"): To "feather-in" sheet, use any excess mortar along the sides/edges or accomplish with protective skim coat.**

**Caution:** If tile is not installed within 24 hours, protect fabric from all types of traffic by covering with mortar skim coat, rags, plywood, heavy paper or similar protection.

## 5. Bridging Control Joints

**Preface:** The tile industry recommendation has been to cut and align tile work joints directly over all substrate joints. To eliminate cutting tile and/or to preserve tile patterns, designs, layouts etc. from interruption by cutting-in tile work joints, use NobleSeal CIS (see Figure 8).

**5.1 Planning:** Incorporate all previous instructions for the installation of NobleSeal CIS. Review all detail drawings and select appropriate detail for project or situation. Two soft joints are recommended. One joint is required.

**5.2 Execution:** Same procedure as paragraphs 1-4. Locate and construct tilework elastomeric (soft) joint at joint closest to substrate control joint (see Figures 6 and 7). The joint(s) must equal width of substrate joint.

**Note:** Elastomeric grout joint(s) must be thoroughly cleaned and free of mortar or debris to function.

Figure 6. Joint Bridging – Concrete/Wood

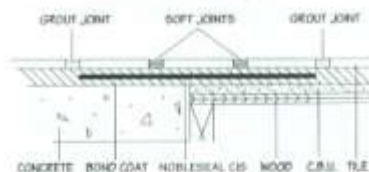
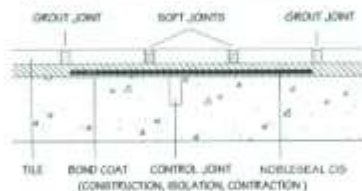
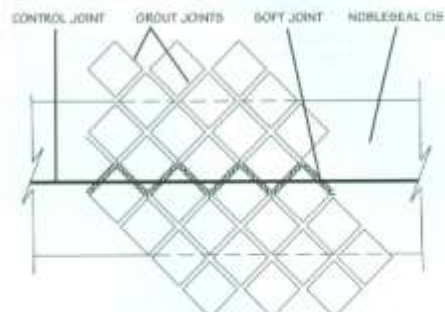


Figure 7. Joint Bridging – Cross Section



**NOTE:** SHEET WIDTH = 3 TILES MINIMUM (ONE FULL TILE OVER JOINT PLUS ONE ROW ADJACENT TO JOINT)

Figure 8. Joint Bridging – Plan View (Pattern)



**NOTE:** MINIMUM SHEET WIDTH 2-1/2 X DIAGONAL DIMENSION OF THE TILE PLUS GROUT JOINTS. ESTIMATE 3 TIMES TILE SIZE.

## 6. Tile Installation

**6.1 Planning:** Sheet bonding material used determines cure time required before installing tile. Refer to section 3.0 Sheet Bond Coat.

**Note:** Rapid curing type of thin-set mortar may be used upon approval of mortar manufacturer.

**6.2** Set tile in accordance with TCA Handbook recommendations, ANSI A108 standards and bond coat manufacturer's directions. Full contact and complete penetration of fabric by the tile bond coat is required. For hot or cold weather procedures, consult with bonding agent manufacturer.

**6.3 Elastomeric Grout Joint(s) (Soft Joint(s)):** Comply with TCA Handbook recommendation EJ171 and construct a compressible joint at closest grout joint in tile work. Two joints are suggested (one on each side of crack or control joint – approximately parallel to crack). Fill with Type T joint sealant (see Figures 3, 4, 6, 7 and 8).

**Note:** These suggestions and data are based on test results The Noble Company believes to be reliable. Users should verify by tests that NobleSeal CIS, as well as these installation methods, are suitable with the products being used in their applications. Since specific use, materials and handling cannot be controlled by The Noble Company, the warranty is limited to the replacement of defective Noble Company products.

The Noble Company disclaims any responsibility for any (a) warranties of merchantability and fitness for purpose, (b) verbal recommendations of its representatives and (c) consequential damages.

Product information is available by fax for this or any other Noble product. Just dial The Noble Company's Fast Fax at 1-800-272-1519 from a touch-tone phone.

Form #NSCIS1201, Supersedes Form #NSC1990B

**The Noble Company**  
P.O. Box 350 • Grand Haven, MI 49417-0350  
Phone: 800-878-5788, 231-799-8000  
Fax: 231-799-8850, Fast Fax: 800-272-1519  
www.noblecompany.com

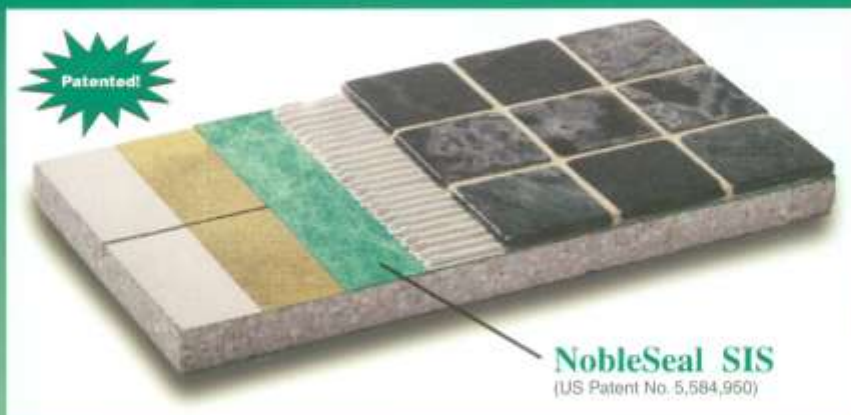
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# SOUND CONTROL

## NobleSeal® SIS

Applications with hard surface floors including ceramic and stone tile and hardwood flooring.



- Effective sound control (IIC = 62 STC = 59)
- Single sheet membrane
  - 3/64" thick (about the thickness of this line )
  - Uniform thickness/quality
  - Easy to install
- Protects tile from cracking
- Waterproof
- Use over common substrates including concrete, backer units, radiant heat, gypsum concrete, and many wood subfloors.

### Installation\*



*Apply bonding agent (either NobleBond 21 adhesive or latex modified thin-set)*



*Embed SIS with a roller*



*Install tile by a thin-bed method*

\*CAUTION - Read complete installation instructions prior to installing.



**The Noble Company**

P.O. Box 350 • Grand Haven, MI 49417-0350 • Phone: 800-878-5788 • 231-799-8000 • Fax: 231-799-8860 • [www.noblecompany.com](http://www.noblecompany.com)  
® Registered Trademark of The Noble Company, Grand Haven, MI

Form 49S 603  
 Supersedes 702



## APPLICATIONS

Applications with hard surface floors including ceramic and stone tile and hardwood flooring.

- Condominiums
- Apartments
- Schools
- Hotels
- Offices
- Hospitals
- Libraries
- Homes

## HOW TO SPECIFY

Specify in Division 9 • Where required, provide NobleSeal SIS, a composite sheet membrane manufactured from an acoustically formulated alloy of Chlorinated Polyethylene (CPE) with non-woven polyester laminated to both sides.

## PRODUCT DESCRIPTION

**Composition and Materials:** NobleSeal SIS is a composite sheet membrane consisting of non-woven polyester laminated to both sides of an acoustically formulated alloy of chlorinated polyethylene (CPE).

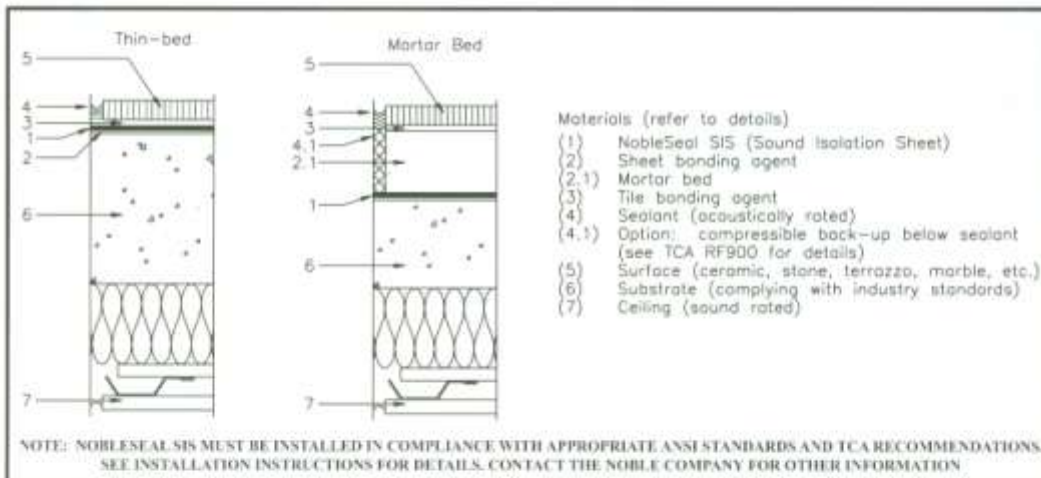
**Product Dimensions:** 1.8m x 10.2m = 18.6 m<sup>2</sup> (6' x 33 1/3' = 200 sq. ft.); nominal thickness 1.25 mm (.050").

## PERFORMANCE DATA

**Sound Control:** NobleSeal SIS was tested by Riverbank Acoustical Laboratories in accordance with ASTM E 492-90 and ASTM E 90-90. Test construction included a sound rated ceiling, concrete substrate, 6" x 6" quarry tile, and latex modified thin-set. Test results follow: IIC = 62 and STC = 59. SIS also exceeded code requirements in field tests by acoustical laboratories with other construction configurations. Field tests conducted in compliance with ASTM E 1007.

**Applicable Standards:** City of Los Angeles (RR# 25268).

**Protects Thin-Set Tile From Cracking:** NobleSeal SIS was tested by the Tile Council of America for system performance in accordance with ASTM C 627 (Robinson Test). NobleSeal SIS passed 14 cycles and was rated for "Extra Heavy Service."



## WARRANTY

NobleSeal SIS brand CPE membrane is guaranteed for the life of the original installation by The Noble Company against failure caused by rotting, cracking and microorganism deterioration when properly installed in systems for which its use is recommended by The Noble Company. This warranty is limited to the replacement of defective material and freight charges to destination only. There are no other expressed or implied warranties and this warranty is in lieu of any other warranty, including, but not limited to, implied warranties of merchantability and fitness for purpose. The Noble Company is not responsible for consequential damages. The remedy of the purchaser set forth herein is exclusive.

Additional product information is available 24 hours a day, 7 days a week at [www.noblecompany.com](http://www.noblecompany.com) or by calling Fast Fax, our automated Fax Back System (1-800-272-1519).

Oklahoma Centennial Mosaic Murals (Employee Payment Timeline)

Art Techs:

One artist @ \$10.00 an hour X 10 hours a week X 40weeks per year= \$4,000.00  
Two years \$8,000.00

Two Artist \$16,000.00

---

Student Artist:

One Student @ \$5.25 an hour X 10 hours a week X 40weeksper year= \$2,100.00  
Two years \$4,200.00

Two Students \$8,400.00

\$16,000.00  
+ \$8,400.00

---

\$24,400.00

Money's Allocated for Three (3) Art Techs \$28,800.00

---

Professional Artist:

One Artist @ \$10.00 an hour X 10 hours a week X 40 weeks per year = \$4,000.00  
Two years \$8,000.00

Two Artist \$16,000.00

---

Money's Allocated for Professional Artist \$17,280.00

To: Ms. Cynthia Gary  
Submitted by Mary Ann Moore May 26, 2005

**INITIAL MURALS PROJECT SOCJC 1984-2004**

**LABOR**

5 hours per week	5
40 weeks	40
10 students	10

Total number of man hrs per year 2000

@ \$10 per hour 10

**Subtotal Labor \$ 20,000.00 Per Year**

00 Professor's Salary @ approx. \$35 per h 35

00 Assistant's Salary @ approx. \$16 per h 16

Total number of prof. Hrs 200

Total number of asst. Hrs 200

**Subtotal average professional man hr \$ 10,200.00**

**Grand Total for Labor \$ 30,200.00 Per Year**

For 20 years 20

**\$ 604,000.00**

**FACILITIES**

Utilities

Electricity/ Kilns

Water

Misc.

Materials

Ceramic Clay

Hypoxcy

Glares

Misc.

Equipment

Electronic

Protective Gear

Misc.

**CENTENIAL CELEBRATION MURALS PROJECT 2004-2007**

**LABOR**

40 hours per week	40
40 weeks	40
6 students	6

Total number of man hrs per year 9600

@ \$10 per hour 10

**Subtotal Labor \$ 96,000.00 Per Year**

Professor's Salary @ approx. \$50 per hr 50

Assistant's Salary @ approx. \$20 per hr 20

Total number of prof. Hrs 1600

Total number of asst. Hrs 1600

**Subtotal average professional man hr \$ 112,000.00**

**Grand Total for Labor \$ 208,000.00 Per Year**

For 3 years 3

**\$ 624,000.00**

**FACILITIES**

Utilities

Electricity/ Kilns

Water

Misc.

Materials

Ceramic Clay

Hypoxcy

Glares

Misc.

Equipment

Electronic

Protective Gear

Misc.