

Dry Gunite Application

# SewperCoat 2000HS Regular

## TRUNK LINES AND PIPING SYSTEM REHABILITATION

### 1 Description

SewperCoat is a ready-to-use mortar designed specifically for the municipal wastewater industry to provide a structural, abrasion and corrosion-resistant, protective lining against biogenic corrosion relative to hydrogen sulfide (H<sub>2</sub>S) found in wastewater environments. SewperCoat is a 100% calcium aluminate mortar premix. Its unique properties result from the mineral phases formed during the hydration process.

SewperCoat is typically used as a structural rehabilitation lining in manholes, wet wells, lift and pump stations, and treatment plant structures. SewperCoat 2000 HS Regular has

also been used as a structural rehabilitation lining in larger diameter piping systems, including concrete or brick trunk lines and larger



Typical SewperCoat manhole application

reinforced concrete pipe. In certain instances, a dry-gunite SewperCoat installation can be extremely cost effective maintaining its proven performance in typical manhole and wet well type applications.

### 2 Installation

SewperCoat, being a cementitious mortar, is completely compatible with moist, humid project conditions. It is not necessary to “dry out” the line prior to a SewperCoat installation. In most instances, a “dry out” procedure is not practical. In the case of trunk line rehabilitation, flow

generally must be maintained throughout the installation process. With alternate lining systems this, at times can require an extensive and costly bypass operation. Gunite applicators have the



Extensive by-pass operation in Philadelphia, PA

ability, under certain project conditions, to “flume” a sewer, eliminating the need for costly bypass pumping without disruption to the flow.

“Fluming a sewer” consists of the construction of a temporary sandbag dam within the line. This temporary dam funnels the flow into a smaller temporary pipeline constructed on site and run within the structure being rehabilitated. The sewer can then be effectively rehabilitated in segments of 200' to 300' without bypass pumping and disruption of the flow.



The temporary sandbag dam portion of the “flume” operation is seen here.



This photo shows the site-constructed temporary pipeline portion of the “flume” operation.

## 2 Installation (cont.)

SewperCoat is typically installed at a thickness of  $\frac{3}{4}$ " to 1" in trunk line applications and  $\frac{1}{2}$ " to  $\frac{3}{4}$ " in smaller piping structures. In areas where the line has deteriorated beyond  $\frac{3}{4}$ " to 1", SewperCoat can be used in conjunction with a portland cement based underlayment or "build-out" mix. The use of a portland cement based underlayment also helps to reduce overall construction costs. A typical pipe rehabilitation project would consist of a gunite installation of 2  $\frac{1}{2}$ " to 3  $\frac{1}{2}$ " of portland cement based mortar, with a final gunite installation of SewperCoat 2000HS Regular at the thickness mentioned above.



Deteriorated trunk line with reinforcing steel in place. Ready for the installation of the portland cement based underlayment.



Deteriorated trunk line with the portland cement based underlayment installed.



Batching of SewperCoat 2000HS for finish installation over the portland cement based underlayment.

## 3 Applicators

There are several SewperCoat applicators that specialize in dry-gunite pipe rehabilitation. A listing of these applicators is as follows:

### ➤ National Gunite / Parkway Construction

1000 Civic Circle  
Lewisville, TX 75067  
Contact: Lee Taylor  
Ph: 972-221-1979  
Fx: 972-219-0061

### ➤ Pressure Concrete / United Gunite

PO Box 1303  
Florence, AL 35630  
Contact: Albert Pugliese  
Ph: 757-498-9029  
Fx: 757-431-9132

### ➤ Entech Corp.

2001 South 69<sup>th</sup> Street  
Philadelphia, PA 19142  
Contact: Richard Darby  
Ph: 215-730-0694  
Fx: 215-730-0695

### ➤ Coastal Gunite Construction Co.

16 Washington Street  
Cambridge, MD 21613  
Contact: Curt White  
Ph: 410-228-8100  
Fx: 410-228-8589

### ➤ Python Corp.

2315 Highway 190 West  
Slidell, LA 70460  
Contact: Irving DePierne  
Ph: 504-649-0916  
Fx: 504-641-6553

## Before...



Deteriorated brick trunk sewer in Decatur, IL.

Corroded block trunk sewer in Pittsburgh, PA.



Failing concrete trunk sewer pipe in Philadelphia, PA.

## During...

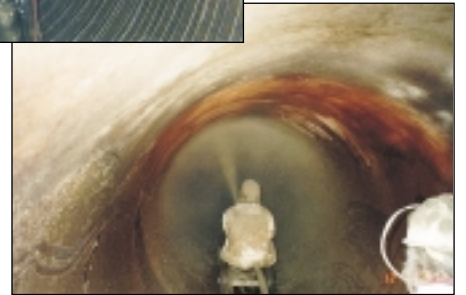
Welded wire mesh and rebar are placed in an extremely corroded trunk line.



The installation of SewperCoat 2000HS in an insitu concrete trunk line.



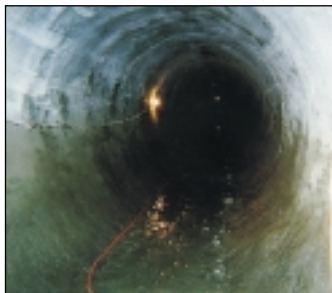
Sewpercoat 2000HS is installed in the crown section of this deteriorated concrete pipe.



## After...



Rehabilitated trunk line in Decatur, IL.



Finished project pictures of the failing concrete trunk sewer project in Philadelphia, PA noted above.



---

## **4** References

There are several prominent piping references for SewperCoat 2000HS Regular including:

### **Decatur, IL Lower Broadway Sewer**

Contractor: National Gunite / Parkway Construction  
Scope: Approximately 11,000 linear feet of 78" diameter trunk sewer. This trunk line accepted industrial processing effluent as well as sewage. The invert under the effluent line was corroding from the industrial waste while the crown was corroding from the sewage.

Project completed: 1997.

Engineer: BGM Engineering

Contact: Mike Price 217-423-8600

### **Atlantic City NJ Trunk Sewer Reline**

Contractor: Pressure Concrete / United Gunite

Scope: Approximately 1 mile of trunk sewer over 1998 and 1999. Rectangular trunk line. Dimensions include 4 ½' X 6' and 5' X 6 ½'.

Atlantic City PWC

Contact: Paul Casagrande - 609-345-0131 ext. 20

### **Myrtle Beach, SC Pipe Rehab**

Contractor: National Gunite / Parkway Construction

Scope: 300' of 72" concrete pipe, 100' of 48" concrete pipe, and 25' of 36" concrete pipe.

All were completed in January 1999.

Myrtle Beach PWC

Contact: Steve "Doc" Rehm 843-918-2025

### **Nashville, TN Trunk Line**

Contractor: Pressure Concrete

Scope: Rehabilitation of 1,000 linear feet of 42" force main and 48" reinforced concrete trunk sewer pipe.

Project completed: November 2000.

City of Nashville contact: Larry Davis

### **Philadelphia, PA Sewer Interceptor Rehab**

Contractor: Entech Corp.

Scope: An emergency repair consisting of the rehabilitation of 2,500 linear feet of a 6' diameter, concrete trunk sewer line. The entire SewperCoat installation took only a two-week period in January 2001.

Philadelphia Water Department

Contact: Lennart Rustam 215-685-6387

### **Decatur, IL Upper Broadway Sewer**

Contractor: National Gunite / Parkway Construction

Scope: Approximately 6,200 linear feet of ovoid trunk line with dimensions including: 28" X 42", 36" X 48", 36" X 54", 40" X 60", 42" X 63", 44" X 66", 48" X 77". The performance of the SewperCoat in the Lower Broadway project listed above led to its continued use for this Upper trunk line.

Project began in November 2000 and is currently underway.

## **5** For more information

Detailed information on the material properties of SewperCoat is included in the SewperCoat Product Properties sheet. A Technical Paper is also available that explains how SewperCoat works in a wastewater environment. For copies of these documents and more information on SewperCoat, please contact Lafarge Calcium Aluminates, Inc. at 1-877-LAFARGE or send an email to [LCInfo@aluminates.lafarge.com](mailto:LCInfo@aluminates.lafarge.com), or visit our web site at [www.LCAinc.com](http://www.LCAinc.com).