

## CASE STUDY

# Chicagoland Apartment Complex Needed Foundation Repair and Floor Leveling With Minimal Disruption to Tenants



## PROBLEM

When new owners began making renovations to a 17-building apartment complex in Rolling Meadows, IL, they discovered one 18,000 sq. ft. building suffering from voids in the soil beneath the slabs ranging from five inches to almost two feet in diameter caused by the stratified compacting of the historically hydric wetlands sedimentary soil, and water and sewer main breaks over the years. The voids caused uneven floors and left the door open for future problems like mold.

The owners called in Atlas Restoration, a Buffalo, IL, company specializing in correcting concrete slab displacement by locating the voids in the subsoil, filling them, and lifting the concrete

*“We’re on site less time which adds to our bottom line”*

slabs to level. Atlas president, and former president of the Concrete Repair Institute, Marty Sobelman said, “The owners needed the work done with minimal disruption to the comfort of their tenants.” This is a big factor in remediation and repair work on structures like apartments, warehouses, parking garages, and concrete slab facilities that can’t afford to close down for any prolonged period of time.

## SOLUTION

Atlas used over 450 cubic feet of TerraThane™ Geotechnical Polyurethane Foam System by US company, NCFI Polyurethanes, instead of the older, heavy, messier cement or mud. Sobelman says, “With cement we’d have had to use more and heavier equipment, make larger drill holes in the slabs, create much more dust, experience higher labor costs, and the tenants would have to move out.”

- + Rapid set time
- + Lighter than cement – lowers surcharge on sub-base
- + Cleaner than the old cement method
- + Requires smaller holes in the slab (5/8" v. 2")
- + Less dust from the drilling and pumping, and the clean up is minimal
- + TerraThane™ is sprayed or poured in place, expands, adheres to the rock and soil and cures, becoming monolithic. Cement grout leaks out of the packers and, often times, requires scrubbing equipment to remove.
- + Tenants experienced minimal disruption

## RESULTS

Sobelman says the apartment complex owners were more than satisfied with the results and the cleaner, shorter job. He chooses TerraThane™ Geotechnical Polyurethane Foam because, “we’re on site less time which adds to our bottom line and delights our clients with occupied units who want the job done right and fast.” He says, “I wish I could tell you how good their engineers and tech guys are at solving our problems, but we just haven’t had any problems with their products. In 10 years we’ve never had a single problem with NCFI. Not one in all the time. They make consistent products—of the highest quality—and they back us up all the way to end of the job.”

Learn more at  
[www.TerraThane.com](http://www.TerraThane.com)

or call

**1-866-NSULATE**  
**(1-866-678-5283)**



NCFI Polyurethanes  
A Division of BMC  
P.O. Box 1528  
Mount Airy, NC 27030  
[www.TerraThane.com](http://www.TerraThane.com)

Phone: 866.678.5283  
Spray Equipment and Parts  
Ordering Hotline: 866.812.7320  
E-mail: [moreinfo@ncfi.net](mailto:moreinfo@ncfi.net)  
[www.NCFI.com](http://www.NCFI.com)

# TECHNICAL SPECIFICATIONS

## NCFI POUR-IN-PLACE 24-003 SYSTEM

### DESCRIPTION

NCFI 24-003 is a hydrophobic, two-component, HFC 245fa blown, all PMDI-based, pour-in place urethane foam system designed for concrete jacking and cavity filling in wet environments. NCFI 24-003 has low component viscosities making the system suitable for mechanical mix machines, high pressure (over 600 psi) impingement mixing machines or hand mixing.

### DISTINGUISHING CHARACTERISTICS

- + Excellent Lifting Capacity
- + Good Performance in Wet Environments
- + Excellent Compressive Strength
- + Good Dimension Stability

### TYPICAL RESIN PROPERTIES

	24-003 R	24-003 A
Viscosity @ 72°F	475 cps	200 cps
Lbs./Gallon	8.9 lbs.	10.2 lbs.
Appearance	opaque, black liquid	transparent, brown liquid
Shelf Life	6 months	6 months

### MIX RATIO

	24-003 R	24-003 A
By Volume	100 parts	116 parts
By Volume	100 parts	100 parts

### TYPICAL REACTION PROPERTIES

	Hand Mix @ 72°F	Hand Mix @ 120°F
Cream Time (sec)	20	7
Gel Time (sec)	47	
Tack Free Time (sec)	51	14
Rise Time (sec)	90	15
Density (FRC)	4pcf	3-4pcf

### TYPICAL PHYSICAL PROPERTIES

Restrained Core Density, ASTM D 1622	5.5 pcf
Compressive Strength, ASTM D 1621	90 psi
Tensile Strength, ASTM D 1623	110 psi
Closed Cell Content	>94%
Water Absorption, ASTM D 2842	≤0.04 lbs/ft <sup>2</sup>
Resistance to Solvents	Excellent
Resistance to Mold and Mildew	Excellent
Maximum Service Temp	200°F

\*The above values are average values obtained from laboratory experiments and should serve only as guidelines.

The information on our data sheets is to assist customers in determining whether our products are suitable for their applications. The customers must satisfy themselves as to the suitability for specific cases. NCFI Polyurethanes warrants only that the material shall meet its specifications; this warranty is in lieu of all other written or unwritten, expressed or implied warranties and NCFI Polyurethanes expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere strictly to any recommended procedures shall relieve NCFI Polyurethanes of all liability with respect to the material or the use thereof.



NCFI Polyurethanes  
A Division of BMC  
P.O. Box 1528  
Mount Airy, NC 27030  
[www.TerraThane.com](http://www.TerraThane.com)

Phone: 866.678.5283  
Spray Equipment and Parts  
Ordering Hotline: 866.812.7320  
E-mail: [moreinfo@ncfi.net](mailto:moreinfo@ncfi.net)  
[www.NCFI.com](http://www.NCFI.com)