

MEMORANDUM

TO: Sidney Barrett, General Counsel, Department of Public Health

FROM: Maurice Redmond, Public Swimming Pools and Tourist Accommodations Program Director

RE: Variance for Chapter 290-5-57, Rules and Regulation for Swimming Pools, Spas and Recreational Waterparks;

1. Rule .04(4) "The surfaces within the pool or spa intended to provide footing for users shall be designed to provide a slip-resistant surface that is ridged and puncture and tear resistant".
2. Rule .04(7)(d) Material Surfaces. All material surfaces that come in contact with the user shall be finished so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use. All materials shall be maintained in accordance with manufacturer's instructions.

Attached is a variance request from petitioner, Billy Morse, City of Toccoa, P.O. Box 579, Toccoa, GA 30577 for review. If you have any questions please contact me at 404-463-2754 or email mredmond@dhr.state.ga.us.



Rules Variance/Wavier Register

Chapter: 290-5-57

Rule Number: .4(4) The surfaces within the pool or spa intended to provide footing for users shall be designed to provide a slip-resistant surface that is ridged and puncture and tear resistant.
.4(7)(d) All material surfaces that come in contact with the user shall be finished so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use. All materials shall be maintained in accordance with manufacturer's instructions.

Date: March 25, 2014

Action Requested: Variance

Reason for Request:

The petitioner submitted a request to vary for the rule for providing a slip resistant surface that is ridged and puncture and tear resistant. The petition request to use a flexible rather than rigid material as the interior surface of the pool. The material is 60 mil reinforced PVC pool renovation membrane with an acrylic stain guard top coating. Material rolls of reinforced PVC membrane lining shall be custom fit and fuse welded together using Leister hot air hand welders and machine welders. Upon completion, the pool lining system shall provide a waterproof lining of the existing pool over the poly felt complete with all necessary hardware, fittings, attachments, flanges, gaskets and all appropriate pool markings as required by applicable state code.

Per your current code, section 290-5-57-04 Structural Design paragraph 7 details what materials can be used in pool construction. Specifically paragraph 7 d. We understand that most codes do not allow "vinyl liners" in commercial pool construction. A vinyl liner pool is a thin vinyl sheet that is placed over compacted sand or vermiculite. In this style of construction there is no concrete on the pool floor. In the case of the City of Toccoa pool, the existing concrete pool will be reused and the sheet PVC materials will be placed over the concrete to create a fresh, new, non-slip, leak tight surface.

Name of Petitioner: City of Toccoa
P.O. Box 579
Toccoa GA 30577

Contact Person: Billy Morse

Phone number: 706-282-3221

Attorney or representing petitioner: Craig Bleakley, Pool Consultant

Agency's Decision: Section Recommends Approval with conditions.

Reason:

The Chapter, 290-5-57 exempted existing pools from certain construction requirements if the pool was built or renovated before December 31, 2000. At that time, some public pools in existence were constructed with a vinyl liner. Most pools with a vinyl liner as an interior surface has a sand bottom with an engineered wall structure that supports the placement of the liner. The structural configuration does not provide a watertight structure that enduring and impervious. The section interpreted that vinyl lines were not acceptable in public pool construction, with the exception of replacing existing liner. Most existing vinyl liner public pools were built with residential quality liners that are 20 to 28 mils thick. These vinyl liners are not considered puncture, tear resistant and rigid when placed in a pool without an appropriate pool shell. The petitioner submitted specifications for an adhered PVC lining system. The PVC liner is 60 mils thick and will provide a slip resistant surface that is rigid, puncture and tear resist when properly welded. The petitioner states it will be installed over the concrete pool shell.

.04 Structural Design

(4) The surfaces within the pool or spa intended to provide footing for users shall be designed to provide a slip resistant surface that is ridged and puncture and tear resistant.

(7) Swimming pools and spas as well as all appurtenances shall be constructed of materials which are: nontoxic to man and the environment; impervious and enduring; withstanding of design stresses; and will provide a watertight structure with a smooth and easily cleaned surface without cracks or joints, excluding structural joints, or to which a smooth, easily cleaned surface finish is applied or attached. Materials of manufacture for swimming pools and spas shall be capable of fulfilling the design, installation and intended use requirements in these rules.

(d) Material Surfaces. All material surfaces that come in contact with the user shall be finished so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use. All materials shall be maintained in accordance with manufacturer's instructions.

If you have any questions regarding this variance, please contact me at 404-657-6534 or email me at mredmond@dhr.state.ga.us

Conditions:

1. The designer must provide written notice to the local health department that the PVC lining system was installed in accordance with the approved plans, manufacturer's specifications and warranty.
2. The designer engineer must provide written notice to the local health department that the pool structure is in compliance with the Chapter and ensure the pool is not currently subject to hydrostatic damage or broken water pressure line damage.
3. The manufacture shall provide the owner with water chemistry, care and maintenance instructions for the PVC liner system.

Georgia Department of Public Health
Environmental Health Section, Land Use Unit
2 Peachtree Street, NW. 13th Floor
Atlanta, Georgia 30303-3186
404-657-6534

Date: 3/7/14

1. Petitioner

Name: CITY OF TOCCOA

Address: P.O. BOX 579

TOCCOA GA 30577

Property location: DOYLE ST POOL

TOCCOA GA

Phone number: 706-282-3221

Contact Person: BILLY MORSE

Attorney or person representing petitioner: _____

2. Rule(s) from which a variance or waiver is requested.

290-5-57-04 Paragraph 4
"Ridges" and puncture/tear resistant

3. Type of action requested.

a. variance X

b. waiver _____

4. List the specific facts of substantial hardship, which would justify a variance or waiver for petitioner.

Petitioner would like to use a product that is "Flexible" and puncture and tear resistant. Code says Ridged

Please note the code (Para 4 Page Nine) says product should be ridged - This means - GROOVES ON MARKINGS. The product we want to use is "dimpled". It has the same grooves to create a non-slip effect. I think this is a typo in the code

5. Detail the alternative standards petitioner agrees to meet.

We will provide a dimpled non-slip surface. NOT a ridged surface.

6. List the reasons that such alternative standards would afford adequate protection for the public health, safety, and welfare.

This is a proven product that has been used in pools for decades.

This is NOT A VARIANCE REQUEST
It is more a REQUEST to use a "flexible" rather than "Rigid" material
All other aspects of the code are met.

7. List the reasons the variance or waiver requested would serve the purpose of the underlying statute upon which the Rule is based.

This community is without a pool. This system allows them to quickly refurbish the pool and use it this season.

8. Duration of the variance or waiver.

PERMANENT - For the life of the pool.

SPECIFICATIONS SECTION 13

ADHERED PVC SWIMMING POOL LINING SYSTEM

PART 1 GENERAL

1.01 The following base bid is for a 60 mil thick (70 mil with embossing) reinforced with a non wicking 9 threads x 9 threads per inch PVC pool renovation membrane with acrylic stain guard top coating and is based upon a performance specification. This specification is presented to establish a level of material quality and installation technique quality and experience levels required to perform the required work and is not designed to restrict in any way equal competitive bids. It is assumed that all products bid will be in literal compliance with the product and installation specifications in this specification. It is the purchasing agencies' intention to consider any other alternate non-stain guard coated non-printed reinforced PVC systems designed and proven in renovating commercial pool facilities only as a deductive alternate bid. Alternate systems other than those specified or pre approved ten days prior to bid must be bid as a deductive alternate to the base bid employing the specified system. Even if another PVC material should be approved for bidding purposes, in no case shall the methods of installation vary from this specification in any manner whatsoever.

The individual components and installation criteria described below consists of a complete polyester webbing reinforced PVC membrane lining to be installed in accordance with these specifications and drawings. Material rolls of reinforced PVC membrane shall be custom fit and fuse welded together using Leister hot air hand welders and machine welders (or approved equal). Termination of the PVC system shall occur as shown on the project drawings. Upon completion, the pool lining system shall provide a waterproof lining of the existing pool over the poly felt complete with all necessary hardware, fittings, attachments, flanges, gaskets and all appropriate pool markings as required by applicable state pool codes. All existing pool markings inside the liner zone shall be replaced with full markings in accordance with state code.

NOTE: PRIOR APPROVAL OF A SPECIFIC MATERIAL DOES NOT ALLOW THE INSTALLING CONTRACTOR TO DEVIATE IN ANY MANNER FROM THE SPECIFIED INSTALLATION METHODS AS OUTLINED IN THESE SPECIFICATIONS NOR DOES IT CONSTITUTE ACCEPTANCE OF ANY DEVIATION FROM THIS LEVEL OF QUALITY SPECIFICATION.

1.02 SUBMITTALS

- A. Shop Drawings: Show fabrication and connection details for all connections to existing pool structure.
- B. Provide standard catalogue sheets and installation instructions for each item specified.
- C. Provide 2' x 2' samples of PVC Membrane for testing purposes if required, 10.5 oz felt, PVC coated

Stainless Steel, countersunk fastener to be employed at flanges, and marking samples and a 1' x 1' sample of the adhesive attaching the PVC to the Felt under layer. Also supply 4 - 2" x 2" PVC to Felt samples for water testing of adhesive bond. Adhesive must hold felt to PVC to felt after 24 hours immersion test.

- D. Provide written documentation of project foreman certification.
- E. Contract Closeout Submittals:
 - 1) Provide Care and Maintenance Guide.
 - 2) Provide copy of the supplier's 10-year PVC material warranty. Warranty should completely

cover the material against leakage, delaminating, bubbling, pitting, shearing, tearing, cracking or crazing or any material workmanship or defects. The warranty must include the above plus include a 10 year weld warranty on all PVC welding including targets, racing lanes and markings.

1.03 QUALITY ASSURANCE

A. Pool material supplier and the actual pool membrane manufacturer shall have both been engaged in the manufacture of PVC membranes for use in Swimming Pools for a minimum of Ten Years. A signed and notarized certificate from the actual PVC Membrane manufacturer (not a distributor, contractor supplier or reseller) certifying that the manufacturer meets this minimum 10 year specification shall be provided with the bid. Manufacturer shall employ only 100% virgin vinyl's throughout the manufacturing process. All PVC membrane components shall be from the same manufacturer to assure compatibility of components and weld ability over time. Products manufactured using recycled materials shall not be allowed. Actual pool membrane manufacturer (Not a marketing or reselling distribution company) shall provide a signed certificate with the bid certifying that they have been engaged in the manufacture of PVC membranes for swimming pool use for a minimum of Five Years.

B. Contractor must demonstrate a minimum of 15 pools installed by its staff utilizing site built PVC reinforced membrane materials.

C. The foreman provided by the installer shall be certified competent in installing PVC membrane materials by the membrane supplier and shall have a minimum of two years experience welding PVC membranes for pool applications.

D. The bidder shall provide enclosed with the bid a full listing of any and all lawsuits from any venue in the United States from any prior customers in which they have been sued by clients. This list is to be notarized and shall list all litigation initiated by clients against the contractor regardless of whether such claims have been settled. Additionally, all bidders shall provide a full written release issued to the bidding agency allowing the bidding agency to discuss prior service and handling of warranty obligations with any prior clients regardless of any prior agreements to limit such discussions.

E. Bidders shall initial and execute and return the enclosed Bidder Certification page. Failure to include this Certification Page shall invalidate the bid.

1.04 DELIVERY, STORAGE AND HANDLING

All materials required for the completion of this project shall be delivered to the project site in a manner designed to prevent damage. No hooks or forks shall be used for unloading. The contractor shall perform unloading. Materials shall be stored in a flat, dry area in a manner that will not damage them. All materials provided are to be new and in unopened packaging.

1.05 PROJECT SITE CONDITIONS

Project site shall be prepared by the contractor to a level in accordance with the supplier's requirements. All burrs and rough edges shall be ground smooth or covered, pits and voids shall be filled with a vinyl concrete patch compound. All working cracks, expansion joints or voids shall be isolated from the 10.5 oz poly felt layer above by the installation of rigid stainless or plastic strips. All oil and tar must be removed from the pool or covered with appropriate isolation materials.

1.06 WARRANTY

The flexible PVC membrane system shall be warranted by the supplier for workmanship, materials, and shall be specifically warranted to not delaminate, pit, crack, require additional sealing, tear, or become structurally unsuitable for it's intended purpose for a period of 10 (TEN) years. Additionally, the contractor shall warrant against delaminating at all heat welds at seams and racing lanes for a period of 10 (TEN) years. The warranty shall not cover acts of vandalism or abusive or improper treatment. The following language shall be employed in drafting the warranty provided to the owner **Warranty Example Actual warranty provided must be EXACTLY as per the attached document in all respects. Material supplier shall provide a listing of five similar sized pools in the US currently protected by material warranty in the US for greater than three years. (Failure to provide may invalidate bid)**

_____ (Contractor) and _____ (supplier if different from contractor) hereby agree to extend a limited warranty on the PVC Pool Membrane System provided at the below referenced installation. The PVC material and all hot air welds employed to join the membrane material are warranted to be free of defects in manufacturing or workmanship by the installing contractor and supplier for a period of 10 (TEN) years from the date of initial pool filling after installation of the membrane. Welding warranty includes; all seams, targets, markings and racing lanes. The PVC membrane product shall remain usable for it's intended purpose (as a lining for a commercial swimming pool) and will specifically not crack, tear, delaminate, or leak for that (10 year) period of time. All welding shall be covered under this 10 Year warranty. All other non-PVC related installation services shall be warranted by the installer for a period of one year. In the event that a warranty claim should ever occur, contractor shall repair or replace the unusable section at its option. It is anticipated that the liner will lighten evenly over time, however the installer and manufacturer warrant that the material shall not mottle or stain or discolor in any way and all PVC Materials shall be warranted for a period of 5 (Five) years against irregular color shifting or mottled staining regardless of owners water chemistry. Contractor shall further warrant that under no circumstances shall the felt shift and bunch under the liner and further warrants that excepting for cases of extreme hydrostatic damage or broken water pressure line damage the liner shall be warranted to be free of wrinkles for the full ten year warranty. No responsibility is assumed or intended under the terms and conditions of this warranty for even color shifting or lightening, slip resistance, improperly maintained or abused installations, consequential damages, vandalism, acts of God, civil authority or war. No other warranty is intended, either expressed or implied. Warranty goes into effect from the time of project completion.

Project Name: _____

Location: _____

Warranty on PVC material and all PVC melting extends until: (10 yrs)

Warranty on other installation services extends until: (1 yr)

Signed _____ Date _____

PART II PRODUCTS

2.01 MANUFACTURERS

The actual material manufacturer (not the marketing agent) shall have been engaged in the formulation and manufacture of reinforced PVC membranes for use in commercial pools for greater than 5 years. Certified documentation from the actual manufacturer of the membrane product regarding this experience is required. The system employed under the base bid shall be as per this performance specification. Any alternate systems shall be bid as a deduct from the base bid.

2.02 MATERIALS

All individual components utilized to renovate the project pool shall be completely compatible with the pool environment and shall be supplied by one supplier as a system to assure compatibility and to assure a single source of responsibility. All PVC membrane components shall be from the same manufacturer to assure identical formulations, weld compatibility, and to ascertain identical product molecular weights. An n approximately .3-mil coating of stain guard acrylic coating shall be factory applied as a topcoat to reduce soiling in the field and to make the liner easier to clean.

Material shall possess an embossed in manufacturing slip resistance for all depths to 5' to provide slip resistance to pool bathers or as required by the owner.

Material Specifications shall be provided meeting or exceeding the following Physical Properties of the specified system.

**RenoSys PVC Pool Membrane
Typical Material Properties**

Description: Polyester reinforced PVC membrane Pool Renovation Membrane System. Available in three easy to clean textures. 10-year warranty

Compound: PVC compounded for the pool environment. Compounded with UV inhibitors, and antifungal agents.

Reinforcement: Non wicking Polyester scrim fabric 1000 D yarn 9X9 per inch count>

Ref #: #10233 S06760 60mil Pool Membrane

<i>Property</i>		<i>Test Method</i>	<i>Result</i>
Thickness			60 mil
Break Strength			
@ Yield (lbs in)	MD	ASTM D638	181
	TD		161
@ Break (lbs in)	MD		117
	TD		85
		ASTM D751	
@ Yield (lbs. in)	MD		418
	TD		328
@ Break	MD		375
	TD		345
Tear Resistance (lbs) MD		ASTMD1004	25.0
	TD		26.7
Cold Flex Resistance		ASTM D 2136 1/8th " Mandrel	Pass -50 C
Dim. Stability	MD	ASTM D1004 (1 hr 100 Deg. C)	-0.6%
%	TD		+0.2%
Specific Gravity		ASTM D 752	1.235
Water Resistance		ASTM D570	+0.5%
%Wt. change			
Puncture Resistance (lbs)		ASTM D4833	123
Delam. Resistance	MD		12.0
(Lbs. in)			
UV Resistance		ASTM D 43255	90
(% retained after exposure)			90

2.03 SYSTEM COMPONENTS

A. Pool lining membrane shall be a flexible 60 mil PVC material fully UV stabilized and reinforced with a scrim consisting of a tightly woven polyester 9 x 9 threads per inch 1,000 denier thread for maximal puncture resistance. The material colors shall be as follows: Color of walls shall be white or light blue as determined by the owner. Floor shall be light blue or white in color with stain guard acrylic topcoat protective coating and must be formulated using anti-fungal agents and manufactured specifically for use in the commercial swimming pool environment. An acrylic stain guard coating shall be a factory applied top coating designed to make cleaning easier and to minimize soiling. The material shall be applied with the nonskid/textured side out as required by the owner in the floor area and on all gutter and step areas to provide slip resistance. All welds shall be accomplished with hot air welding. No solvent welding of PVC materials shall be allowed on this project. No double stick Mylar tapes are permitted under the liner on this project. Seams shall be tacked, a continuous air entrapment weld shall be performed continuous on all welds, and then a minimum 3/4" wide weld shall be installed. No burning of the material shall be permitted.

B. Racing lanes, targets and marking strips shall be provided by the supplier and colored black. All markings shall be as per local pool codes.

C. An anti microbial product fully compatible with the PVC membrane shall be sprayed or rolled on under the felt material to discourage microbial growth under the system.

D. Adhesives that are not weakened when exposed to water immersion and that are fully compatible and suitable for bonding to the PVC material and the felt layer shall be provided that are designed to chemically bond to the PVC material and to fully attach the Geotextile fabric to the pool walls (and floor where required). NOTE: WALLS AND DIVE HOPPER AND THREE FOOT OF PERIMETER SHALL BE AN ADHERED SYSTEM OVER POLY FELT. All 10.5oz poly felt is to be bonded to the pool. Additionally all PVC material employed on all pool walls and in dive hoppers shall be fully adhered as a condition of these specifications. Wallpaper paste adhesives and any adhesives that are water-soluble shall not be allowed under the scope of these bid documents to prevent the geotextile fabric from shifting under the membrane. PVC adhesive shall be further designed to be resistant to Plasticizer migration. Adhesive on project shall be water impermeable RenoBond or Nordot 34 only. It is the intention of the owner to have the contractor provide a project where the PVC is fully adhered to the felt on all walls and in the dive hopper area as well as around the pool floor perimeter. No tacking of the PVC wall and floor sections to PVC metal strips is intended under this base bid specification. Alternate non-adhered systems may only be bid as a deductive alternate to the base bid.

E. An under layer of 10.5 oz felt shall be installed fully adhered with the appropriate adhesive throughout the entire pool.

F. PVC coated Stainless Steel metal or as required to make for a satisfactory installation termination. Galvanized PVC coated steel shall not be acceptable for use on this project.

G. Trim poly felt and terminate liner around perimeter as detailed in the accompanying installation details.

H. Flanges at all penetrations shall be constructed of Type I Exterior grade Hard PVC Sheet and custom fabricated, radiused, and drilled as required for use at all membrane penetrations. No PVC foam based or foam core compression flanges shall be permitted. Flanges will be custom fabricated to fit as close to existing pool fittings as is practical and possible based on substrate conditions around penetrations. All bolts used to fasten any compression bar shall be countersunk to allow for a flush installation. All metal fasteners shall be Stainless steel.

I. 6" wide Plastic Plate or Stainless Steel 25 gauge plate shall be installed over all active expansion joints and working cracks. Galv. Steel shall not be acceptable.

J. Caulking shall be installed where required by installation details, and shall be Novagard Underwater Grade Caulk or prior approved equal. Caulking shall only be used at pool penetrations and terminations and shall not be employed for joining seams.

K. Membrane supplier shall provide complete care instructions, PVC underwater patch kit, warranty certificate and spare material as might be required. Owner's agent is also to be trained in the proper method of repairing the membrane as a part of this installation.

PART III EXECUTION

3.01 EXAMINATION

Installation crew shall inspect the pool surface at the beginning of the project and shall advise owner of any conditions, which might affect the satisfactory installation of the pool-lining product.

3.02 PREPARATION

The pool shall be prepared for the installation of the membrane in accordance with the supplier's technical data and these specifications.

3.03 INSTALLATION AND APPLICATIONS

A. Installation shall be performed by installers certified competent by the supplier whose experience is fully in compliance with the terms of these specifications. The PVC membrane installation shall be completely supported by the structural walls in all respects. The material shall be completely supported by structural walls at all corners and wall/floor junctures before the pool is filled. Due to the inordinate stress induced at seams, and fittings by water pressure stretch fitting- in no case shall gaps, voids or spaces be allowed behind the membrane before water is added.

B. The installation procedures employed in the execution of this project are to be fully in accordance with the supplier's recommendations and current Technical Data. If any terms or conditions of this contract contradict recommended procedures of the manufacturer or supplier, work will be performed in accordance with manufacturers and supplier's requirements however written notice of any variances from these specifications must be provided to the project architect in advance of any actual work performed in the field.

C. Work is to be performed as follows:

- a) Prepare pool surface as per specifications and suppliers recommendations.
- b) Span any cracks or voids with Stainless Steel sheet 25 ga. or 1/8th inch hard plastic plate and pin in place with appropriate fasteners.
- c) Apply sanitizing agent.
- d) Apply adhesive to pool walls and floors where required and attach 10.5 oz poly felt to all walls and floor. Trim at compression fittings.
- e) Apply poly felt material throughout pool with water insoluble adhesives.
- f) Install Stainless Steel coated PVC Steel where required.
- g) Apply PVC membrane to pool as detailed in the plans and overlap weld (allowing a 2" overlap) with a minimum 3/4" wide weld. All hand welding is to be performed with a Leister hot air welder. No Solvent welding, glue welding or THF Swell agent welding is permitted on this project. No voids at wall/floor junctures shall be permitted in this installation. No double stick tapes are permitted.
- h) Provide PVC markings, targets, racing lanes, logo etc. as required and directed by plans and code. End Targets shall be fully bonded to the wall.
- i) Attach Compression flanges and gaskets as shown on the drawings or in accordance with supplier's recommendations. Bolt spacing shall not be greater than 3" O.C. All fastener heads shall be countersunk.
- j) Prime and caulk the perimeter termination and wherever else required to make for a suitable and proper watertight fitting.
- k) Inspect all seams in the pool with a roofing probe to ascertain that there are no false welds, pinholes or missed areas. Seal all seam edges with edge sealant if required in installation bulletins.
- l) Broom clean the pool and surrounding deck area. Remove any marks or dirty spots. Remove all trash and debris to the owners dumpster.
- m) Provide a service and care session of approximately one hour with the owners designated agent. Provide patch kit, care instructions in a written format, plus 100 square feet of color matched patch material.

DEDUCTIVE ALTERNATE BIDS

Alternate 60 mil reinforced PVC membrane systems with factory imbedded reinforcement that are proven to be successful at renovating commercial swimming facilities will be considered by the purchasing agency only as a deductive alternate to the base bid. To be considered, alternate systems must provide in advance of the bid for approval by the owners representatives complete plans, installation details, a full and complete users list of clients currently warranted in the US including all phone numbers and contact people, product specifications, installation crew qualification statements listing all completed projects, catalogue cut sheets, 8x10 inch samples of all components to be employed in the proposed alternate bid. Systems will only be considered that have a proven track record of at least 20 satisfactory installations in use in the United States that are being warranted by the supplying company for a minimum of three years. Systems that have any failed installations or more than five unsatisfactory installations may not be considered. Alternate proposals shall additionally provide a full and complete written listing of any and all proposed variances from these base bid specifications as a part of this alternate deductive bid. Contractors are required to bid in accordance with the above base bid and show any alternate systems proposed as a deduct to the base bid.

PVC Liner Bidder Certifications

In bidding this project as required in the bid documents we hereby certify the following by initialing the item and signing below. Failure to include this form signed will invalidate the bid.

_____ 1) we hereby certify that our material meets or exceeds all aspects of the written project specifications. We have provided a 2' x 2' actual sample of the exact material we intend to employ and agree to allow it to be independently tested to verify compliance.

_____ 2) we certify that our material employs a non-wicking coating on all internal fibers.

_____ 3) we certify that we will be employing an anti-fungal formulation in addition to an acrylic stain reducing top coating which has been factory applied.

_____ 4) we certify that we will fully adhere the felt to the pool employing a thinner based non-water soluble PVC adhesive, and that we will also fully adhere the PVC to the felt on all walls, perimeters and sloped areas of the pool.

Signed _____

Bidder _____

Date _____

Notary _____

