

Addendum No. 1
Issue Date: December 2, 2011

Project Name: Douglas Block Masonry Repair and Waterproofing
Project No.: BD110
CRM BID #: 552
Bid Opening Tuesday, December 13, 2011 4:00 pm (revised bid date)

TO: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Contract Documents dated November 2011 as noted below. Acknowledge receipt of this Addendum by inserting the number and issue date of this addendum in the blank space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum No. 1 includes the following attached documents:

1. Revised Bid Form
2. Unit price schedule
3. List of Petrographers
4. BASF Thoroseal® Data sheet

CLARIFICATIONS:

A. General Description of Work

1. Initial notice to proceed will be issued no earlier than January 3, 2012 except by mutual agreement between the Owner and Contractor. A separate notice to proceed and completion time will be provided for each phase of work as outlined in the CHANGES TO CONDITIONS OF THE CONTRACT section of this addendum. Article 6.01 of the revised bid form has been amended to reference the contract times provided in this addendum.
2. Surface Bonding Cement shall be BASF Thoroseal® (or equal) shall be used lieu of Surewall and Sika for parge coat on foundation walls, parapet wall repair, slope coat under ledge flashing.
3. All sidewalk joints adjacent to building shall be sealed with a high quality multi component self leveling urethane sealant. Sealant shall also be applied to door thresholds on east elevation of 150 E. Thomas St. (Manhattan Building). Sealant work shall be included as incidental to the masonry repair for each individual building.

B. Foundation Waterproofing

1. Flashing cap for foundation waterproofing is deleted from the project. In lieu of flashing BASF Thoroseal® Foundation Coating (or equal) shall be extended 1 course above grade and membrane waterproofing shall be terminated 4" to 6" below grade.
2. 4" Stub out for drainage board shall be installed at the low end of the foundation which should be on the north end of each building. Contractor shall cap stub out with filter fabric and backfill around the stub out with approximately 9 cubic feet of 7 stone. Future tie to drainage structure, if required, will be completed by owner.

C. Masonry Repair

1. To the extent practical Owner's objective is to repair crack widths > 0.025" (25 mils). Owners representative will coordinate with the Contractor specify locations of required masonry repairs prior to the start of work.
2. Contractor shall complete a 2' x 2' test section on each building that represents the color, texture and tooling for approval by the Owner prior to starting work on the masonry repairs on the balance of the building.
3. Contactor shall provide for laboratory examination (petrographic and chemical analysis) of the proposed mortar for each building to validate its suitability relating to binder type, color, texture, vapor permeability and compressive strength. A list of firms capable of providing this service is provided as an attachment to this addendum. Sand from testing should be retained for use by manufacturer for color matching of mortar.
4. Line item 2.2A Alternate 1 for complete stripping of paint from north elevation of 150 E. Thomas St. (Manhattan Building) has been added to the Bid Form. Owner is in the process of evaluating the integrity of the current coating and will determine the necessity of complete removal vs. localized removal at the repair joint prior to the start of work.

D. Masonry Repair (Roof Side Parapet Wall)

1. See note 1 section A. General Description of Work.

E. Water-Repellent Coatings (Deleted from contract)

1. Application Siloxane water repellent has been deleted from the scope of work. Owner will monitor performance of the structures for 6 to 12 months after completion of the masonry repair and foundation waterproofing to determine if additional waterproofing measures will be required.

F. Flashing

1. See note 1 section A. General Description of Work.
2. Contactor shall use a high movement sealant such as the Sonolastic 150® or Tremco Dymonic FC® on the reglet joint installed in the wall.

CHANGES TO BIDDING REQUIREMENTS:

1. Bid date change:
 - a. Bids will be received by the City of Rocky Mount, NC (hereinafter call the "City") in the Office of the Purchasing Manager, Administrative Services Complex, 331 South Franklin Street, Rocky Mount, North Carolina 27804-5712 until 4:00 PM local time, Tuesday, December 13, 2011
2. A revised Bid Form has been provided with this addendum. Attach revised Bid Form to Bid Manual.
3. Contractor to provide unit prices for masonry joint repair and brick replacement per the Unit Price Schedule attached to this addendum.
 - a. Unit price but will be used to establish contract payment and will not be used for basis of award.
 - b. Complete Unit Price Schedule provided with this addendum and attach to Bid Manual.

4. Estimated Quantities for bid basis

221 NE Main St. (Douglas Building)

Item	Estimated Quantity
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	50 sf
Replace damaged, cracked and/or missing brick	5 ea

150 E. Thomas St. (Manhattan Building)

Item	Estimated Quantity
Foundation waterproofing membrane and subsurface drainage system	375 sf (estimated depth to bottom of footing 4' and north end, 2' at south end)
Strip paint from west elevation	100% of elevation
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	15% of surface
Replace damaged, cracked and/or missing brick	50 ea

170 E. Thomas St. (Booker T. Theater)

Item	Estimated Quantity
Foundation waterproofing membrane and subsurface drainage system	375 sf (estimated depth to bottom of footing 4' and north end, 2' at south end)
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	100% North elevation 100% West/East elevations parapet wall down 4' 100% West/East elevations from grade up 3' 15% Balance of building
Replace damaged, cracked and/or missing brick	50 ea
Install metal flashing on brick ledge	75 ft

190 E. Thomas St (Burnette Building) (North elevation)

Item	Estimated Quantity
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	15% of surface
Replace damaged, cracked and/or missing brick	15 ea

208 E. Thomas St (Stokes Building) (East and West Elevation)

Item	Estimated Quantity
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	15% of surface
Replace damaged, cracked and/or missing brick	15 ea

201 E. Thomas St. (Thorpe Building) (East and west elevation)

Item	Estimated Quantity
Cut rake and re-point deteriorated and or missing exterior brick mortar joints	15% of surface
Replace damaged, cracked and/or missing brick	15 ea

CHANGES TO CONDITIONS OF THE CONTRACT:

1. Contract Times

- a. Initial notice to proceed will be issued no earlier than January 3, 2012 except by mutual agreement between the Owner and Contractor.
- b. Owner will provide a minimum of 20 days between issuance of a Notice to Proceed for listed phases unless otherwise agreed to by the Contractor.
- c. Owner will provide individual Notices to Proceed as follows:

ITEM NO.	BID ITEM	Substantial Completion (Days)	
1	<i>Foundation Waterproofing</i>		
1.1	150 E. Thomas St. (Manhattan Building) West Elevation (at open field)	30	
1.2	170 E. Thomas St. (Booker T. Theater) West Elevation (at open field)	30	
2	<i>Masonry Repair</i>		
2.1	221 NE Main St. (Douglas Building) (North corner of east elevation, 2nd floor)	21	Plus weather & temperature days
2.2	150 E. Thomas St. (Manhattan Building) (West, North and East Elevations)	45	Plus weather & temperature days
2.3	170 E. Thomas St. (Booker T. Theater) (West, North and East Elevations)	45	Plus weather & temperature days
2.4	190 E. Thomas St (Burnette Building) (North elevation)	30	Plus weather & temperature days
2.5	208 E. Thomas St (Stokes Building) (East and West Elevation)	30	Plus weather & temperature days
2.6	201 E. Thomas St. (Thorpe Building) (East and west elevation)	30	Plus weather & temperature days
3	<i>Masonry Repair (Roof Side Parapet Wall)</i>		
3.1	150 E. Thomas St. (Manhattan Building)	14	Plus weather & temperature days
4	<i>Flashing</i>		
4.1	170 E. Thomas St. (Booker T. Theater) (West, North and East Elevations) Alternate 1: Strip existing coating from entire north elevation of	0	To be included in NTP for Item 2.3
2.2A	150 E. Thomas St.	14	

CHANGES TO SPECIFICATIONS:

Special Provisions

A. General Description of Work

Roof Side Parapet

- 1) Cut rake and re-point deteriorated and or missing exterior brick mortar joints; caulk along parapet cap/wall seam; prime entire wall and apply elastomeric coating. Repair any loose or damaged brick; clean and remove all unsound or damaged and/or missing exterior brick mortar joints and repair as needed. Apply Surface Bonding Cement to exposed brick and re-caulk joint along the top of the membrane roof.

D. Masonry Repair (Roof Side Parapet Wall)

- 2) Repair any loose or damaged brick; clean and remove all unsound or damaged and/or missing exterior brick mortar joints and repair as needed in accordance with the guidelines set forth in NPS Preservation Briefs 2: Repointing Mortar Joints in Historic Brick Buildings.

CHANGES TO DRAWINGS:

No change

End of Addendum No. 1

	<p><i>City of Rocky Mount Engineering Department 331 S. Franklin St. Rocky Mount NC 27802-1180 252-972-1121</i></p>
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BID FORM (ADDENDUM 1)

DOUGLAS BLOCK MASONRY REPAIR AND WATERPROOFING

Project No. BD110

BidNo.552

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ARTICLE 1 – BID RECEIPT

1.01 This Bid is submitted to:

Purchasing Manager
City of Rocky Mount
331 South Franklin Street
Rocky Mount, North Carolina 27804-5712

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in SC-4.02, and (2) reports and drawings of Hazardous Environmental Conditions that have been identified in SC-4.06.
- E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – FURTHER REPRESENTATIONS

4.01 Bidder further represents that:

- A. this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

5.02 Lump Sum Bids:

ITEM NO.	BID ITEM	Lump Sum Bid Price
1	<i>Foundation Waterproofing</i>	
1.1	150 E. Thomas St. (Manhattan Building) West Elevation (at open field)	\$ _____
1.2	170 E. Thomas St. (Booker T. Theater) West Elevation (at open field)	\$ _____
2	<i>Masonry Repair</i>	
2.1	221 NE Main St. (Douglas Building) (North corner of east elevation, 2nd floor)	\$ _____
2.2	150 E. Thomas St. (Manhattan Building) (West, North and East Elevations)	\$ _____
2.3	170 E. Thomas St. (Booker T. Theater) (West, North and East Elevations)	\$ _____
2.4	190 E. Thomas St (Burnette Building) (North elevation)	\$ _____
2.5	208 E. Thomas St (Stokes Building) (East and West Elevation)	\$ _____
2.6	201 E. Thomas St. (Thorpe Building) (East and west elevation)	\$ _____
3	<i>Masonry Repair (Roof Side Parapet Wall)</i>	
3.1	150 E. Thomas St. (Manhattan Building)	\$ _____
4	<i>Flashing</i>	
4.1	170 E. Thomas St. (Booker T. Theater) (West, North and East Elevations)	\$ _____
5	<i>Water-Repellent Coatings</i>	
5.1	221 NE Main St. (Douglas Building) (North corner of east elevation, 2nd floor)	\$ _____ NA
5.2	150 E. Thomas St. (Manhattan Building) (West, North and East Elevations)	\$ _____ NA
5.3	170 E. Thomas St. (Booker T. Theater) (West, North and East Elevations)	\$ _____ NA
5.4	190 E. Thomas St (Burnette Building) (North elevations)	\$ _____ NA
5.5	208 E. Thomas St (Stokes Building) (East and West Elevation)	\$ _____ NA
5.6	201 E. Thomas St. (Thorpe Building) (East and west elevation)	\$ _____ NA
TOTAL BID		\$ _____

ITEM NO.	BID ITEM	Lump Sum Bid Price
2.2A	Alternate 1: Strip existing coating from entire north elevation of 150 E. Thomas St.	\$ _____

All specified cash allowances are included in the price(s) set forth above and have been computed in accordance with Paragraph 11.02 of the General Conditions and Bid Allowance Form 00 43 21 provided in the Bid documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees to complete work in accordance with the owners scheduling priorities and that the Work will be substantially complete in accordance with the contract times listed in Addendum 1. Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 30 calendar days after substantial completion.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are attached to and made a condition of this Bid:
 - A. ~~Required Bid security~~
 - B. List of Proposed Subcontractors
 - C. List of Proposed Product/Suppliers
 - D. Execution of Bid and Non-Collusion Affidavit and Debarment Certification
 - E. MWBE Identification of Minority Business Participation
 - F. MWBE AFFIDAVIT A- Good Faith Efforts
 - G. MWBE AFFIDAVIT B-- Intent to Perform Contract With Own Workforce

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

- 9.01 This Bid submitted by:

Contractor Name: _____

License Type: _____

State Contractor License No. _____

- 9.02 Bid Execution:

- A. Contractor must complete form 00 45 19 Execution of Bid, Non-Collusion Affidavit, and Debarment Certification included as a part of this Bid Manual for bid to be valid

UNIT PRICES SCHEDULE

Project Name: Douglas Block Masonry Repair And Waterproofing
CRM Project Number: BD110

Owner shall use the listed unit prices to adjust the lump sum contract amount to the actual work completed.

Item No.	Description	Unit Price
1.01	Cut rake and re-point deteriorated and or missing exterior brick mortar joints	
1.02	Cut rake and re-point deteriorated and or missing exterior brick mortar joints	

APPENDIX A – LIST OF PETROGRAPHERS

Testing labs capable of doing petrographic analysis and mortar analysis according to ASTM 1324 Standard:

John Walsh
Highbridge Materials Consulting, Inc.
404 Irvington Street, Pleasantville, NY 10570
www.highbridgematerials.com
(914) 502-0100 (office)
(914) 502-0099 (fax)
jwalsh@highbridgematerials.com

Ann Caffero
CTL Group
5400 Old Orchard Road
Skokie, IL 60077-1030
Phone: 847-965-7500
www.ctlgroup.com

Laura J Powers
Wiss, Janney, Elstner Associates, Inc.
Janney Technical Center
330 Pfingsten Road
Northbrook, Illinois 60062
PHONE: 847-272-7400



The Chemical Company

PRODUCT DATA

7 07 16 00

Cementitious
Waterproofing

THOROSEAL®

Waterproof cement-based coating
for concrete and masonry

Description

Thoroseal® is a Portland-cement-based coating for concrete and masonry that resists both positive and negative hydrostatic pressure. Polymer-modified with Acryl 60®, Thoroseal® creates a low-maintenance and highly durable waterproof barrier.

Yield

225 ft²/50 lb (20.9 m²/22.7 kg) bag as a base coat at 1/16" (1.6 mm) dry-film thickness.

450 ft²/50 lb (41.8 m²/22.7 kg) bag as a topcoat at 1/32" (0.8 mm) dry-film thickness.

Coverage will vary depending on surface texture and porosity.

Packaging

THOROSEAL®

10 lb (4.5 kg) cans for Thoroseal® white and standard gray only

30 lb (13.6 kg) polyethylene-lined bags for Thoroseal® white and standard gray only

50 lb (22.7 kg) polyethylene-lined bags for Thoroseal® white, standard gray, all landscape colors and custom colors

60 lb (27.2 kg) pails for Thoroseal® white, standard gray, landscape colors, and custom colors

ACRYL 60®

1 quart (0.9 L) bottles

1 gallon (3.8 L) bottles

5 gallon (18.9 L) pails

30 gallon (113 L) drums

55 gallon (208 L) drums

Features

- Waterproof
- Resistant to both positive and negative hydrostatic pressure
- Breathable
- Compatible with high-performance coatings
- Aesthetically beneficial
- Aesthetically superior

Benefits

- Protects building interiors from dampness and moisture damage
- Suitable for use below grade interior and exterior and in water-treatment construction
- Allows interior moisture to escape without damaging coating
- Accepts a wide range of architectural coatings and textured finishes
- Hides minor surface defects and blemishes in architectural concrete
- Available in 10 landscape colors and in custom colors (with minimum order quantities)

Color

White and standard gray (this color is not uniform)

Custom and landscape colors are available for 5,000 lbs (2,268 kg) minimum order.

Ten landscape colors : bone, dijon, French vanilla, good earth, light khaki, Thoro® gray, Navajo white, parchment, pearl gray, and putty tan

Shelf Life

1 year when properly stored

Storage

Transport and store in unopened containers and keep in a clean, dry condition protected from rain, dew and humidity. Do not stack bags more than 2 pallets high. If dry onsite storage of bags is unavailable or if project is located in a very wet, humid climate zone, then specify Thoroseal® packaged in 60 lb (27.2 kg) metal pails. Store Acryl 60® in similar conditions. Do not allow Acryl 60® to freeze.

Where to Use

APPLICATION

- Alternative to mechanical finishing or rubbing of concrete
- Waterproofing basement and retaining walls
- Foundations
- Bridges and tunnels
- Water cisterns

LOCATION

- Vertical and light-pedestrian horizontal surfaces
- Interior and exterior
- Above and below grade

SUBSTRATE

- Cast-in-place and precast concrete
- Block, brick and porous stone



Technical Data

Composition

Thoroseal® contains cement, graded sand, and proprietary additives.

Test Data

PROPERTY	RESULTS	TEST METHODS
Initial Set , min, at 70° F (21° C), 50% rh	10	Lab Method
Final Set , at 70° F (21° C), 50% rh	90	Lab Method
Density , (cured), lbs/ft ³ (kg/m ³)	129 (2,080)	Lab Method
Positive resistance to hydrostatic pressure , hrs, at 200 psi (1.4 MPa), 461 head ft, air cured at 70° F (21° C), 50% rh	752 No leakage, no softening	CRD C 48, modified
Negative resistance to hydrostatic pressure , hrs, at 200 psi (1.4 MPa), 461 head ft, air cured at 70° F (21° C), 50% rh	664 Limited dampness	CRD C 48, modified
Water absorption , %, boiling water submersion at 24 hours	3.6	ASTM C 67 (Section 7.3)
Compressive strength , psi (MPa) 7 days 28 days	4,200 (29) 6,030 (42)	ASTM C 109
Flexural strength , psi (MPa) 7 days 28 days	360 (2.5) 1,027 (7)	ASTM C 348
Tensile strength , psi (MPa) 7 days 28 days	250 (2) 440 (3)	ASTM C 190
Modulus of elasticity , psi (MPa) 28 days	2.72 x 10 ⁶ (1.87 x 10 ⁶)	ASTM C 469
Artificial weathering , hrs Xenon Arc Carbon Arc	5,000 = No failure 500 = No failure	ASTM G 26 ASTM G 23
Adhesion strength , psi (MPa)	418 (2.9)	Test by tensile bond
Artificial weathering ,	No cracking, loss of adhesion, checking, or other defect	Atlas Type DMC weatherometer
Freeze/thaw resistance , 200 cycles	No change	ASTM C 666 (Procedure B)
Salt spray resistance , 300 hours	No defect	ASTM B 117
Carbon Dioxide (CO₂) , in (mm)	1/16 (1.6) Equivalent to 3/4" (19 mm) new concrete	Lab Method Diffusion
Permeance , perms (metric permeability)	12 (0.10698) 18 x 10 ³ resistance	ASTM E 96 (water-vapor transmission) Swedish standard SS-02-15-82

Test Data, continued

PROPERTY	RESULTS	TEST METHODS
Wind-driven rain, hrs	8 = excellent	Fed. Spec. TT-P-0035 (Para 4.4.7)
Coefficient of thermal expansion, in/in/° F (mm/mm/° C), at 28 days	6.99×10^{-6} (5×10^{-7})	ASTM C 531
Impact strength (Gardener impact tester)	No chipping	Fed. Spec. TT-P-0035 (Cement paints para. 3.4.8)
Hardness, (Barber Coleman Impressor) Requirement min = 30, max = 60		Fed. Spec. TT-P-0035 (para 4.4.9)
7 days	35	
14 days	47	
21 days	52	
Abrasion resistance, 3,000 L sand	Passed	Fed. Spec. TT-P-141B
Reflectance		ASTM D 2244 using Hunterlab D-25 meter
Gray Thoroseal®	64.2	
White Thoroseal®	88.1	
Fungus resistance, at 21 days	No growth; meets all requirements	Fed. Spec. TT-P-29B
Surface burning characteristics		ASTM E 84
Flame Spread	0	
Smoke developed	5	
Fire Propagation	Index = 1.5	BS476: Part 6:1981
Flame spread	Class 1	BS476: Part 7:1971

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

How to Apply**Surface Preparation**

1. Surface preparation is extremely important for proper adhesion. Substrates must be sound and free of dust, dirt, laitance, paints, oils, grease, curing compounds or any other contaminants. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 3 – 14 days. If efflorescence is present, mechanically remove it before proceeding. For extreme cases where this is not adequate, contact Technical Service.
2. Patch all holes and cracks before installation.
3. Relieve hydrostatic pressure in concrete block with weep holes.
4. Roughen or brush blast extremely smooth surfaces such as precast and cast-in-place concrete to ensure good mechanical adhesion of Thoroseal®.

Mixing

1. Mix Thoroseal® with a mixing liquid consisting of a blend of Acryl 60® diluted with water. Maximum dilution ratio is 1 part Acryl 60® to 3 parts water. Approximately 6 quarts of mixing liquid is needed per 50 lbs of Thoroseal® powder. Up to 2 additional quarts of mixing liquid may be added when using as a rubbing compound.
2. For best results, mechanically mix Thoroseal® with a slow-speed drill and mixing paddle. Gradually add the powder to the mixing liquid while drill is running.
3. When properly blended, Thoroseal® will have the lump-free consistency of smooth, heavy batter.
4. Allow the Thoroseal® and Acryl 60® mixture to rest undisturbed for a minimum of 10 minutes to fully wet out all the powder. Then remix the wet mixture and apply. A small amount of mixing liquid can be added to this remixing.
5. Pot life is 60 – 90 minutes at 70° F (21° C). At high temperatures and low relative humidity, pot life can be significantly less.

Application

1. Apply Thoroseal® with a Thoro® brush or broom or equivalent stiff fiber brush or by textured spray equipment. Spray applications of the first coat require back brushing or brooming to properly fill voids and achieve uniformity.
2. Completely dampen the substrate with water before application starts. Do not saturate the substrate, but keep it cool and damp throughout the application.
3. It is essential to work first coat thoroughly into the substrate to completely fill and cover all voids, holes and nonmoving cracks. Finish with a horizontal stroke for an even coat.
4. Allow to cure 24 hours, then apply the second coat and finish with a vertical stroke. Above grade, the second coat can be replaced with a Thoro® high-build architectural coating to achieve better color uniformity.
5. On block or masonry walls, allow 5 – 7 days before applying second coat to eliminate joint read through.

Specific Applications

Above-grade interior or exterior applications in positive pressure situations (direct contact with rain or standing water with a low head of pressure)

1. A 50 lb (22.7 kg) bag of Thoroseal® will provide the following coverage at the designated material usage.

Recommended coverage:

- First Coat: 2 lbs/yd² (1.1 kg/m²) = 225 ft²/50 lb bag (20.9 m²/22.7 kg bag)
- Second Coat: 1 lb/yd² (0.54 kg/m²) = 450 ft²/50 lb bag (41.8 m²/22.7 kg bag)
- Total: 3 lbs/yd² (1.6 kg/m²), cured nominal thickness of 1/16" (1.6 mm).

Coverage will vary depending on surface texture and porosity.

2. A 3 lbs/yd² (1.6 kg/m²) application rate does not eliminate surface irregularities such as struck mortar joints. To hide surface irregularities, spray and back-brush a base coat of Thoroseal® at 2 lbs/yd² (1.1 kg/m²) and allow it to cure for 5 – 7 days. Then spray apply and back trowel a topcoat of Thoroseal® Plaster Mix (see Form No. 1019908) at an application rate of 9 lbs/yd² (4.9 kg/m²).

BELOW-GRADE INTERIOR APPLICATIONS

1. The standard application is 3 lbs/yd² (1.6 kg/m²).

2. For high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), increase application rate to 4 lbs/yd² (2.2 kg/m²) and waterproof from the positive side wherever possible.

BELOW-GRADE EXTERIOR APPLICATIONS

1. Use Thoroseal® Foundation Coating (see Form No. 1019907) For high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), apply a base coat of Thoroseal® Foundation Coating at 2 lbs/yd² (1.1 kg/m²) and allow to cure for 5 – 7 days.

2. Then apply a topcoat of Thoroseal® Plaster Mix at 12 lbs/yd² (6.5 kg/m²). A steel trowel finish is recommended.

3. For both below-grade interior and below-grade exterior applications where water might move between vertical walls and slab or footer, it is recommended to cut out and place a Waterplug® cove at the wall and floor junction prior to the application of the Thoroseal® base coat.

4. Thoroseal® can be covered with extruded polystyrene insulation board during the second coat application. The board must be fully coated with Thoroseal® and embedded into the still-wet coating already in place on the walls. Exercise care when placing the coated board because it should not be moved or slipped. Once placed, do not move the board. After curing, prepare the above-grade portions of the boards by roughening or removing the surface skin and then coating with Thoroseal® to protect them from UV light degradation.

WATERPROOFING POTABLE WATER TANKS OR RESERVOIRS

1. Install Thoroseal® as directed in the general Application instructions.

2. After Thoroseal® has fully cured, wash down the Thoroseal® surface with saline solution (salt brine, 1 lb salt per 1 gallon water).

3. Leave saline solution on the entire Thoroseal® surface for at least 24 hours.

4. Rinse off saline solution completely. If needed, reapply saline solution until final rinse water is completely clean and clear.

Color Uniformity

With any cementitious product, such as Thoroseal®, it may be difficult to achieve color uniformity due to weather and substrate variability. For this reason, it may be necessary to apply a topcoat of a Thoro® architectural coating.

Clean Up

Promptly clean hands and all tools with warm water while product is still wet. Cured material may only be removed mechanically.

For Best Performance

- Thoroseal® must be modified with Acryl 60® to achieve the properties listed in the technical data section.
- Do not apply to substrates with active water leaks or moving cracks; patch all leaking static cracks and holes with Waterplug®. Repair any other nonmoving cracks or voids with the appropriate Thoro® repair product and repair all moving cracks or voids with appropriate sealant.
- Maintain or place expansion and control joints as necessary.

- Do not apply in rain or when rain is expected within 24 hours. Do not apply above 90° F (32° C) or below 40° F (4° C) or when temperatures are expected to fall below 40° F (4° C) within 24 hours. For hot and cold temperature applications, store Thoroseal®, Acryl 60® and water at 50° F (10° C) to 70° F (21° C) before use.
- Hot substrates will effect working time and material strength.
- Variations between inside and outside temperatures may result in condensation on below-grade walls treated with Thoroseal®. This can be alleviated by assuring that adequate ventilation exists.
- Windy, dry or hot conditions may require rewetting of Thoroseal® during cure and the use of polyethylene barriers.
- Before specifying Thoroseal® for water-retaining structures, conduct tests to determine water quality. Thoroseal® is not intended for continuous contact with acid or sulfate-containing water. Very soft water will have an adverse effect on Thoroseal®.
- Service temperatures: immersion, up to 140° F (60° C); cleaning water, up to 200° F (93° C); dry air, up to 220° F (104° C).
- On all projects, it is recommended that a sample be prepared on site and approved prior to the commencement of the work. The site sample should confirm the color, texture and workmanship required until the job is finished and accepted. Retain the sample until final approval is secured.
- Allow Thoroseal® to cure 7 – 10 days before immersion in water.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

THOROSEAL®

Warning!

Thoroseal® contains Portland cement; silica, crystalline quartz; iron oxide; magnesium oxide; limestone; gypsum; calcium hydroxide; calcium oxide and anhydrite.

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/ MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents.

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

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Customer Service 800-433-9517
Technical Service 800-243-6739



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