



**TRANSMITTAL FORM**

TO: City of Lawton, OK  
 Attn: City Clerk  
 212 SW 9th Street  
 Lawton, OK 73501

DATE:	October 20, 2023
REFERENCE:	CL24-007 Manhole Coating Product
TRANSMITTAL NO.:	1

ITEM(S) SUBMITTED INCLUDE:  Attached

COPIES	DESCRIPTION
1	Invitation for Bid/Contract
1	Affidavit For Payments In Excess of Twenty-Five Thousand Dollars (\$25,000.00)
1	Contractor's Certificate of Compliance with Non-Discrimination Provisions
1	Department Specification
1	Price Bid Sheet
1	W-9 Form
1	Warranty
2	References
2	Raven 405 (Product Data)
1	Signatory Authority

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

(If enclosures are not as shown, kindly notify us at once.)

- For Approval  Approved as submitted  Resubmit \_\_\_\_\_ copies for approval
- For your use  Approved as noted  Submit \_\_\_\_\_ copies for distribution
- As requested  For Signature  Return \_\_\_\_\_ corrected prints
- For review & comment  \_\_\_\_\_
- FOR BIDS DUE October 24th, 2023

REMARKS:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

cc: File \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Bobbi Dowland**  
 Bobbi@acepipe.com  
 (816) 241-2891

Ace Pipe Cleaning, Inc.  
 6601 Universal Avenue  
 Kansas City, MO 64120-1330

# City of Lawton INVITATION TO BID AND CONTRACT

MAIL SEALED BIDS TO: City Clerk City of Lawton 212 SW 9th Street Lawton, OK 73501		DIRECT INQUIRIES TO: <a href="mailto:Justine.Guevara@lawtonok.gov">Justine.Guevara@lawtonok.gov</a> <a href="mailto:Colbie.Gilbert@lawtonok.gov">Colbie.Gilbert@lawtonok.gov</a> QUESTIONS REGARDING BID: <a href="http://www.bidsync.com/bidsync-cas/">www.bidsync.com/bidsync-cas/</a>	
Date Bid Typed: October 3, 2023	Dates Bid Advertised: October 6, 2023	No Bids Received After: October 24, 2023 <span style="float: right;">2 : 00pm</span>	
Contract Number and Title: CL24-007 Manhole Coating Product		Requirements-type Contract:	Contract Period: 12 months
<b>Bid Openings are held at Lawton City Hall 2nd Floor Conference Room 212 SW 9<sup>th</sup> Street Lawton, OK 73501 @ 2:00 pm</b>			
Vendor Name and Point of Contact:  Ace Pipe cleaning, Inc.		Reason for No Bid:	
Mailing Address:  6601 Universal Ave		Terms:  Net 30 days	
City: Kansas city	State: MO	Zip: 64120	Delivery: Within 30 calendar days from Notice to Proceed
Area Code and Phone Number: 816-241-2891		Email Address: bids@acepipe.com	
Federal Employer Identification Number or Social Security Number 44-0580656			

**THIS BID INVALID IF NOT SIGNED AND NOTARIZED**

AFFIDAVIT: STATE OF Missouri COUNTY OF Jackson

Bruce Vantine

of lawful age, being first duly sworn, on oath says that:

1. Affiant is the duly authorized agent of the bidder/vendor and/or contractor submitting the competitive bid and executing the contract which is attached to this statement, and that as such agent Affiant has the authority to bind the bidder/vendor, whether an individual, partnership, or corporation, for the purpose of negotiating and entering into said agreement, and for certifying the facts pertaining to the existence of collusion among bidders and between bidders and City officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached; 2. Affiant is fully aware of the facts and circumstances surrounding the making of the bid and/or the procurement of the contract to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bids; 3. Neither the bidder/vendor nor anyone subject to the bidder/vendor's direction or control has been a party: a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding, b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract, nor d. to paying, giving or donating or agreeing to pay, give or donate to any officer or employee of the City of Lawton, any money or other thing of value, either directly or indirectly, in procuring the contract to which his statement is attached. 4. Affiant further agrees to be held personally liable in the event that Affiant has misrepresented the scope or extend of Affiant's authority to bind the bidder herein, and to indemnify and hold harmless the City of Lawton its departments, boards, commissions, agencies, institutions, and all employees of the aforementioned from all damages based upon such misrepresentation, including but not limited to all costs and attorney fees incurred, in addition to any other remedies available by law.

Bruce Vantine

SIGNATURE OF AUTHORIZED AGENT

Bruce Vantine, Secretary/Treasurer

PRINT/TYPE NAME/TITLE

Firm: Ace Pipe Cleaning, Inc.

Address: 6601 Universal Ave.

Kansas City, MO 64120

(City, State, Zip)

Phone: 816-241-2891

Subscribed & sworn before me this 20<sup>th</sup> day of October, 2023

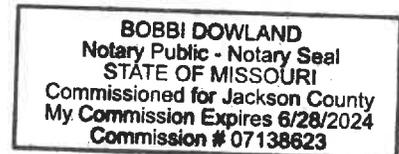
Bobbi Dowland

Notary Public

My Commission expires: 6/28/24

**INVITATION TO BID AND CONTRACT  
PAGE 1 OF 11**

FORM REVISED 2/14/22

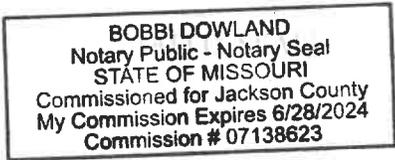


AFFIDAVIT FOR PAYMENTS IN EXCESS OF \$25,000.00  
CITY OF LAWTON, STATE OF OKLAHOMA

STATE OF Missouri SS  
COUNTY OF Jackson

The undersigned (architect, contractor, supplier or engineer), of lawful age, being first duly sworn, on oath says that this contract is true and correct. Affiant further states that the (work, services or materials) will be (completed or supplied) in accordance with the plans, specifications, orders or requests furnished the affiant. Affiant further states that (s) he has made no payment directly or indirectly to any elected official, officer or employee of the City of Lawton, any county or local subdivision of the state, of money or any other thing of value to obtain or procure the contract or purchase order.

Ace Pipe Cleaning, Inc.  
Business Name / Contractor Name



Bruce Vantine  
Signed  
Print : Bruce Vantine, Secretary/Treasurer

Attested to before me this 20<sup>th</sup> day of October 2023.

Bobbi Dowland  
Notary Public

My Commission Expires 6/28 2024

NOTE: Copy of this Affidavit must be attached to any invoice submitted by an architect, contractor, or engineer or supplier for work, services, or materials completed or supplied under the terms of the contract or contracts in excess of \$25,000.00.



**CITY OF LAWTON**  
212 SW 9<sup>th</sup> Street  
Lawton, Oklahoma 73501  
(580) 581-3500

---

**CONTRACTOR'S CERTIFICATE OF COMPLIANCE**  
**WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT**

---

In accordance with the provisions of this Contract relating to non-discrimination, it is hereby certified that I/we have complied with the provisions of Section 10-1-112 of the Code of Ordinances of the City of Lawton in the performance of any work in connection with this Contract.

CL24-007

Contract Number

10-20-23  
Date

Ace Pipe Cleaning, Inc.

Name of Contractor (Print)

Bruce Vantine  
Signature, Member of Firm or Officer of Corporation

Bruce Vantine, Secretary/Treasurer

Title

## CITY OF LAWTON SPECIFICATION

**SPECIFICATION NUMBER:**  M-145

**SM-145 SPECIFICATION TITLE:**  Amine Cured Epoxy Coating (Coating trunk main lines manhole)

**APPROVAL DATE:** \_\_\_\_\_

**DELIVERY:** 2421 S. 6th Street, Lawton, OK 73501-Sewer Rehab Division Yard  
Item(s) shall be delivered, FOB, to the address shown above.

**WARRANTY:** Will be considered during award.

Bidder is to clearly state the terms of the standard warranty and also the cost and terms of any additional available warranties.

**DISCLAIMER:** The City of Lawton reserves the right to accept or reject any or all bids.

**DESCRIPTION:**

- a. The following specifications are the minimum acceptable standards for the item(s) shown above.
- b. Any deviation from these specifications must be clearly annotated by the Bidder by checking either Y or N and on a separate page list the specification reference and detailing the deviation.
- c. Failure to annotate deviations may cause bid to be deemed as non-responsive.

**The following examples are some acceptable makes & models. The use of examples is not meant to limit bidding in any way and are shown for informational purposes only.**

**Description:**

The City of Lawton is establishing a requirement contract for the coating of its sanitary sewer trunk line manholes, junction boxes and siphon vaults. The contract will be on an as needed basis. The only pay item to be paid are identified in the bid schedule and work or material required including by-pass pumping shall be included in items bid and are considered incidental to the work. Materials bid shall provide protection of the concrete structure from all hazards found in sanitary sewer. An example of amine cured epoxy is Raven 405 or an approved equal.

ITEM	DESCRIPTION	COMPLY	
		Y	N
	<b>Manhole Coating Products</b>	Y	N
1	100% solids epoxy, solvent-free ultra high-build epoxy system. For example Raven 405 or approved equal material.	Y	
2	Zero shrinkage-(wet film thickness and dry film thickness must be the same)	Y	
3	Minimum Physical Requirements:	Y	
	a. Product Type: amine cured epoxy	Y	
	b. VOC Content (ASTM D2584): 0%	Y	
	c. Compressive Strength, psi (ASTM D695): 18,000 (minimum)	Y	
	d. Tensile Strength, psi (ASTM D638): 7,500 (minimum)	Y	
	e. Flexural Modulus, psi (ASTM D790): 700,000 (minimum)	Y	
	f. Adhesion to Concrete, psi/mode of failure (ASTM D4541/7234): 200 psi (minimum) with substrate (concrete) failure	Y	

	g. Chemical Resistance (ASTM D543/G20) immersion service for:		
	1.1.A.1.g.1. Municipal sanitary sewer environment		
	1.1.A.1.g.2. Sulfuric Acid, 30%		
	1.1.A.1.g.3. Sodium Hydroxide, 10%	Y	
	1.1.A.1.g.4. Sodium Hypochlorite, 12.5%		

ITEM	DESCRIPTION	COMPLY	
	<b>Warranty</b>	Y	N
1	Warranty shall be for a period of 2 years against defects in material or workmanship.	Y	

ITEM	DESCRIPTION	COMPLY	
	<b>Quality Assurance</b>	Y	N
1	Coating and repair product(s) shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems. Example, but not all inclusive (H <sup>2</sup> S, BII<I, Bacterial)	Y	
2	Contractor shall utilize equipment for the application of the coating and repair product(s) which has been approved by the product manufacturer; and Contractor shall have received training on the operation and maintenance of said equipment from the product manufacturer. Written certification of such approval(s) and training shall be submitted by the coating and repair product manufacturer(s).	Y	
3	Contractor and contractor personnel shall be certified by, or have their training approved and certified by, the coating and repair product(s) manufacturer(s) for the handling, mixing, application and inspection of the product(s) to be used as specified herein. Written certification of such training shall be submitted by the coating and repair product manufacturer(s) and shall include the individual contractor personnel to be employed on the project.	Y	
4	Pre-construction meeting shall take place no less than two weeks prior to Contractor mobilization.	Y	

ITEM	DESCRIPTION	COMPLY	
	<b>Delivery, Storage, And Handling</b>	Y	N
1	Materials are to be kept dry, protected from weather, and stored under cover.	Y	
2	Coating and repair materials are to be stored between 50 deg F and 90 deg F. Do not store near flame, heat, or strong oxidants.	Y	
3	All materials are to be handled according to their material safety data sheets.	Y	

ITEM	DESCRIPTION	COMPLY	
		Y	N
	<b>Site Condition</b>	Y	N
1	Confined space entry program and other required safety training certifications shall be submitted by Contractor to City of Lawton as necessary to perform the specified work.	Y	
2	Any active flows shall be dammed, plugged, or diverted as required to ensure all liquids are maintained below or away from the surfaces to be coated until final applications are cured as recommended by the manufacturer.	Y	
3	Temperature of the surface to be coated should be maintained between 40 and 120 deg F.	Y	
4	Specified surfaces should be shielded to avoid exposure of direct sunlight, other intense heat source or, where cementitious products are employed, excessive ventilation. Where varying surface temperatures do exist, coating installation should be scheduled when the temperature is falling versus rising.	Y	
5	Prior to commencing surface preparation, Contractor shall inspect all surfaces specified to receive the coating and notify Owner, in writing, of any noticeable disparity in the site, structure or surfaces which may interfere with the work, use of materials or procedures as specified herein.	Y	
6	<p>Prior to the application of the coating product repairs shall be completed to ensure the following:</p> <ol style="list-style-type: none"> <li>1. All inflow and infiltration shall be eliminated by use of appropriate repair material(s), such as hydraulic cements and/or chemical grouts .</li> <li>2. All repairs to joints, pipe seals, steps, mechanical penetrations, benches, inverts, pipes or other appurtenances to be coated shall be completed and repaired surfaces prepared according to this section. <ol style="list-style-type: none"> <li>a. Benches or other horizontal surfaces shall have adequate slope (1" rise per lineal foot minimum) to minimize the retention of debris following surcharge.</li> <li>b. Inverts or flow channels shall be smooth without lips, rough edges or other features which may cause debris to collect; contoured to minimize turbulent flow; and be sloped to promote adequate flow from the inlet(s) to the outlet pipe.</li> <li>c. All joints, pipe seals, steps or other penetrations shall be sealed against inflow, infiltration and exfiltration and be adequately filled, smoothed and contoured to promote monolithic coating application.</li> </ol> </li> </ol>	Y	

ITEM	DESCRIPTION	COMPLY	
		Y	N
	<b>Repair and Surface Preparation</b>	Y	N
1	Excessive debris, sediment, root intrusion or other foreign materials which may impact the effectiveness of the surface preparation process shall be removed prior to the commencement thereof.	Y	
2	Offset structural components, lids, covers, frames, etc. shall be repaired, replaced, or reset by City of Lawton prior to the commencement of surface preparation.	Y	
3	External soil/fill voids shall be remediated and/or stabilized by replacement or injection of stabilizing grout as determined appropriate by the engineer.		Can negotiate if needed
4	Oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants which may affect the performance and adhesion of the coating to the substrate shall be removed in accordance with SSPC-SP 1 – Solvent Cleaning. Solvent shall be compatible with use in sanitary sewer systems. Solvent that would harm the biological treatment process at the Wastewater Treatment Plant shall not be used.	Y	
5	Choice of surface preparation method(s) should be based upon the condition of the structure and concrete or masonry surface, potential contaminants present, access to perform work, and the required cleanliness and profile of the prepared surface to receive the repair and/or coating product(s).	Y	
6	Surface preparation method, or combination of methods, that may be used include high-pressure water cleaning, water jetting, abrasive blasting, shotblasting, grinding, scarifying, detergent water cleaning, hot water cleaning and others as referenced in industry accepted standards such as: <ol style="list-style-type: none"> <li>1. SSPC SP-13/NACE No. 6 Surface Preparation of Concrete,</li> <li>2. ASTM D-4258 Standard Practice for Surface Cleaning Concrete for Coating and ASTM-D-4259 Standard Practice for Abrading Concrete,</li> <li>3. ICRI Technical Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.</li> <li>4. NACE/SSPC Standards for the surface preparation of steel.</li> </ol>	Y	
7	Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound, clean, and neutralized surface suitable for the specified coating product(s). <ol style="list-style-type: none"> <li>1. Resulting surface profile of the prepared concrete substrate shall be (as described in ICRI Technical Guideline No. 03732): <ol style="list-style-type: none"> <li>a. For application of cementitious materials; at least a CSP2</li> <li>b. For application of coating products: at least a CSP4.</li> </ol> </li> </ol>	Y	

8	<p>Repair products as per (A) shall be used to fill voids, bugholes, and other surface defects which may affect the performance or adhesion of the coating product(s).</p> <p>A. Factory blended, high early strength, non-shrink, cementitious underlayment to be spray applied then troweled to finish or otherwise to ½ minimum in thickness. Can be top coated in 3 to 6 hours.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: Raven Lining Systems, Strong Seal MS-2A Systems and Quadex, Inc. OM-15 Restore.</li> <li>2. Product: Raven 755 or approved equal – High early strength reinforced Portland underlayment. <ol style="list-style-type: none"> <li>a. Product Type: High early strength Portland cement.</li> <li>b. Compressive Strength, psi (ASTM C109): &gt;9,000 @ 28 days</li> <li>c. Shrinkage @ 90% R. H., % (ASTM C596): 0</li> <li>d. Adhesion to Concrete, psi (ASTM C882): &gt;2,000 psi</li> <li>e. Adhesion to Concrete, psi (ASTM D7234): &gt;150 psi</li> </ol> </li> </ol>	Y	
9	<p>Repair products as per (A) and/or (8A) shall be used to repair, smooth or rebuild surfaces with rough profiles to provide a concrete or masonry substrate suitable for the coating product(s) to be applied. These products shall be installed to ½” minimum thickness or as recommended within manufacturers published guidelines. Should structural rebuild be necessary, these products shall be installed to a thickness as specified by the Project Engineer.</p> <p>A. Factory blended, rapid setting, high-early strength, non-shrink, calcium aluminate repair mortar to be trowel or pneumatically spray applied to the entire surface.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: Raven Lining Systems, Broken Arrow, Oklahoma 800-324-2810 or 918-6150-140 fax or Strong Seal Calcium Aluminate, Little Rock Arkansas.</li> <li>2. Product: Raven 705CA or Strong Seal MS-2C Mortar having the following characteristics: <ol style="list-style-type: none"> <li>a. Product Type: Calcium aluminate mortar</li> <li>b. Tensile Strength, psi (ASTM C496):&gt;600</li> <li>c. Compressive Strength, psi (ASTM C109): &gt;8,000 @ 28 days</li> <li>d. Flexural Strength, psi (ASTM C293): &gt;900</li> <li>e. Shrinkage @ 90% R. H., % (ASTM C596): 0</li> <li>f. Adhesion to Concrete, psi (ASTM C882): &gt;2000 psi</li> <li>g. Adhesion to Concrete, psi (ASTM D7234): &gt;150 psi</li> <li>h. Freeze/Thaw (ASTM C666): 100 Cycles, no visible damage</li> <li>i. Density of wet mix: 129 – 139 lbs./ft<sup>3</sup>.</li> <li>j. Applied Density: 135 lbs/ft<sup>3</sup> (+/- 5 lbs).</li> </ol> </li> </ol>	Y	

10	<p>Repair products as per section (A) and/or (B) shall be used to remediate all active inflow, infiltration, and/or external soil/fill voids.</p> <p>A. Factory blended, non-shrink, hydraulic cement to be used for infiltration remediation.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: As applicable</li> <li>2. Product: Hydraulic cement having the following characteristics: <ol style="list-style-type: none"> <li>a. Product Type: Hydraulic cement</li> <li>b. Compressive Strength, psi (ASTM C109): &gt;1,000 @ 1 hour, &gt;2500 psi @ 24 hours</li> <li>c. Shrinkage @ 90% R. H., % (ASTM C596): 0</li> </ol> </li> </ol> <p>B. Hydrophobic or Hydrophilic injectable urethane chemical grout to be used for the remediation of high volume infiltration or crack repair and/or soil stabilization and void filling.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: As applicable</li> </ol> <p>Product: Urethane chemical grout as appropriate for infiltration, crack repair and soil stabilization.</p>	Y	
11	<p>Concrete and/or mortar damaged by corrosion, chemical attack or other means of degradation shall be removed so that sound substrate remains,</p> <ol style="list-style-type: none"> <li>1. In conditions where severe chemical/microbiological attack has occurred the prepared substrate shall exhibit a pH of 8-12. Additional cleaning and/or contaminated substrate removal may be required to achieve the specified pH level.</li> </ol>	Y	
12	<p>Factory blended, non-shrink, hydraulic cement to be used for infiltration remediation.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: As applicable</li> <li>2. Product: Hydraulic cement having the following characteristics: <ol style="list-style-type: none"> <li>a. Product Type: Hydraulic cement</li> <li>b. Compressive Strength, psi (ASTM C109): &gt;1,000 @ 1 hour, &gt;2500 psi @ 24 hours</li> <li>c. Shrinkage @ 90% R. H., % (ASTM C596): 0</li> </ol> </li> </ol>	Y	
13	<p>Hydrophobic or Hydrophilic injectable urethane chemical grout to be used for the remediation of high volume infiltration or crack repair and/or soil stabilization and void filling.</p> <ol style="list-style-type: none"> <li>1. Manufacturer: As applicable</li> <li>2. Product: Urethane chemical grout as appropriate for infiltration, crack repair and soil stabilization.</li> </ol>	Y	

ITEM	DESCRIPTION	COMPLY	
		Y	N
	<b>Application of Coating Product</b>		
1	In all cases the coating product(s) shall be applied to a minimum dry film thickness of 80 to 100 mils on new manholes and 110 to 120 mils on rehabilitated manholes to surface profiles of CSP-4 to CSP-5 or 125 mils minimum DFT to surface profiles of CSP-6 or greater.  1. For resistance to ground water head pressure the coating shall be a minimum of 80 to 100 mils for depths up to 15' and 110 to 125 mils minimum for depths from 15' to 80'. For depths greater than 80' consult the coating manufacture for recommendations.	Y	
2	Subsequent top coating or additional coats of the coating product(s) shall occur within the product's recoat window or 24 hours whichever is less. Additional surface preparation procedures will be required if this recoat window is exceeded.	Y	
3	Termination points of the coating product(s) shall be made at the manhole frame and chimney joint (or other man way as is present), 1" below low flow levels at the bench, and a minimum of 1" interfacing within each pipe penetration. On new manholes without flow, the complete invert shall be coated.	Y	
4	All bypass pumping to perform work is incidental to construction and shall be included in other items bid.	Y	

ITEM	DESCRIPTION	COMPLY	
		Y	N
	<b>Surface Testing</b>		
1	Vacuum Testing	Y	
2	Holiday Testing: Testing of pinholes in coating (requirement)	Y	

## BID SCHEDULE

	Description	Estimated Quantity	Unit	Amount Bid
1	Mobilization per trip required by City of Lawton. Complete cost for mobilization/demobilization to complete the manhole release for construction. If additional work is released for construction prior to demobilization, no additional mobilization cost will be paid.	4	Each	\$20,000
2	New manhole preparation will include cleaning only and non substrate repairs of any existing coating and loose cement for application of finish coating.	25,000	SF	\$125,000
3	Preparation of surface of existing manholes that require other than cleaning. Payment is based on actual area repaired, cleaning is included.	5,000	SF	\$75,000
4	80 – 100 mil amine cured epoxy	20,000	SF	\$300,000
5	110 – 125 mil amine cured epoxy	5,000	SF	\$100,000
<b>TOTAL AMOUNT BID</b>				<b>\$620,000</b>
<b>TOTAL AMOUNT BID IN WORDS</b>				
Six Hundred Twenty Thousand			Dollars and $\frac{0}{100}$ -----	



**ACE PIPE CLEANING**  
*A Carvlon Company*

## Two (2) Year Limited Workmanship Warranty

October 20,2023

City of Lawton  
City Hall  
212 SW 9<sup>th</sup> Street  
Lawton, OK 73501

RE: CL24-007 Manhole Coating Product

Ace Pipe Cleaning, Inc. (APC) warrants against defect due to defective workmanship for a period of two (2) years from the date of installation for work performed on the above referenced project.

Should any defect develop during the warranty period due to improper **materials or workmanship** performed within our scope of work, APC will make necessary repairs at no expense to the city.

Any corrections, repairs, or extractions required due to existing structural defects or failures of the pipe(s) are excluded.

Bruce Vantine  
Secretary/Treasurer

Ace Pipe Cleaning, Inc.

**Ace Pipe Cleaning, Inc.**  
**Epoxy References**

1	PROJECT NAME:	Odor Control Improvements at Atherton WWTP
	PROJECT LOCATION:	Little Blue Valley Sewer District
	TYPE OF PROJECT:	Epoxy Lining to Existing Structures
	PRIME OR SUB?	SUB to Foley Company
	ACE CONTACT PERSON:	Bryan Dobson (816) 807-7947
	Owner Contact Person:	John Flathers /Email: jflathers@lbvdsd.org / Phone: 816-796-9191 x225
	CONTRACT DOLLAR AMOUNT:	\$ 171,750.00
	PROJECT DESCRIPTION:	Epoxy Lining to approximately 15,000 SF of existing Structures
	START DATE:	2018
	END DATE:	2018
2	PROJECT NAME:	Manhole Lining Services 17-4307
	PROJECT LOCATION:	Olathe, KS
	TYPE OF PROJECT:	Epoxy Manhole Lining
	PRIME OR SUB?	PRIME
	ACE CONTACT PERSON:	Bryan Dobson (816) 807-7947
	CITY NAME & INSPECTOR NAME & EMAIL:	Ira Speer / 913-238-3658 <a href="mailto:ispeer@olatheks.org">ispeer@olatheks.org</a>
	CONTRACT DOLLAR AMOUNT:	\$ 300,000.00
	PROJECT DESCRIPTION:	Clean, Repair, Resurface & Epoxy line manholes throughout the City
	START DATE:	2018
	END DATE:	2019
3	PROJECT NAME:	Thousand Oaks Subdivision - Epoxy to New Manholes
	PROJECT LOCATION:	Parkville MO Thousand Oaks Subdivision
	TYPE OF PROJECT:	Manhole Lining - Epoxy
	PRIME OR SUB?	SUB to Havens Construction
	ACE CONTACT PERSON:	Bryan Dobson 816-807-7947
	GC NAME & EMAIL:	Havens Construction / Eric Havens / <a href="mailto:enavens@navensco.com">enavens@navensco.com</a> / 816-781-4769
	CONTRACT DOLLAR AMOUNT:	\$ 22,050.00
	PROJECT DESCRIPTION:	Epoxy lining to the interior surface of Nine, 48-inch precast manholes
	START DATE:	May 2019
	END DATE:	May 2019

**Ace Pipe Cleaning, Inc.**  
**Epoxy References**

4	PROJECT NAME:	South Kansas River Pump Station Rehab
	PROJECT LOCATION:	Topeka, KS
	TYPE OF PROJECT:	Epoxy lining
	PRIME OR SUB?	SUB
	ACE CONTACT PERSON:	Bryan Dobson 816-807-7947
	GC NAME & EMAIL:	Garney Construction-Tim Diamond- tdiamond@grimmconstruction.com
	CONTRACT DOLLAR AMOUNT:	\$ 196,000.00
	PROJECT DESCRIPTION:	Approximately 14,000 SF of epoxy lining to wet wells and structures
	START DATE:	December 2013
	END DATE:	June 2014
5	PROJECT NAME:	Countywide Term Contract
	PROJECT LOCATION:	Johnson County, KS
	TYPE OF PROJECT:	Epoxy Manhole Lining
	PRIME OR SUB?	SUB to SAK Construction
	ACE CONTACT PERSON:	Bryan Dobson 816-807-7947
	SAK Contact Info:	Brent Adams / badams@sakon.com / 816-550-0622
	County Contact Info:	Troy Young / 913-687-3690
	CONTRACT DOLLAR AMOUNT:	\$ 135,000.00
	PROJECT DESCRIPTION:	Approximately 590 VF of Epoxy Lining to 4 foot diameter manholes
	START DATE:	2018
END DATE:	2019	
6	PROJECT NAME:	Sewer Rehabilitation Services - Term & Supply Contract
	PROJECT LOCATION:	City of Columbia, MO
	TYPE OF PROJECT:	Cement & Epoxy Manhole Lining
	PRIME OR SUB?	PRIME
	ACE CONTACT PERSON:	Bryan Dobson 816-807-7947
	Owner Contact Info:	Mr. Nate Runyan / ndrnyan@gocolumbiamo.gov / 573-441-5482
	CONTRACT DOLLAR AMOUNT:	\$ 400,000.00
	PROJECT DESCRIPTION:	Approximately 3,500 VF of Cement & Epoxy Lining to manholes
	START DATE:	2018
	END DATE:	Ongoing





January 6, 2023

To Whom It My Concern,

This letter shall serve as recognition that Ace Pipe Cleaning, Inc., currently located at 6601 Universal Ave, Kansas City, MO, is a certified Raven Lining System applicator in good standing and operates in strict accordance with our Certified Applicators Agreement executed between both parties dated January, 13, 2004.

Ace Pipe Cleaning continues to prove themselves as one of Raven Lining Systems top applicator with over 25,000 vertical feet of product applied to date. Ace Pipe Cleaning also continues to demonstrate the knowledge and experience in manhole rehabilitation to make them one of Raven's top applicators in the country.

This letter shall further serve as written notice that Ace Pipe Cleaning possesses all necessary equipment needed to properly apply Raven's products and has complied with all annual equipment inspections and re-certification of personal to assure they continue to apply our products in strict accordance with our applicators procedures.

We at Raven Lining Systems are proud to say Ace Pipe Cleaning is our applicator.

If you should have any questions, please contact me for any other information on this matter.

Sincerely,

Tripp Ishmael

A handwritten signature in black ink, appearing to read "T. Ishmael", written in a cursive style.

V. P. Product Development  
Raven Lining Systems  
13105 East 61<sup>st</sup> Street  
Broken Arrow, OK 74012  
(918) 615 0131



686 S. Adams St.  
 Kansas City, KS. 66105  
 (913) 321-9000

# Raven® 405

## Technical Data Sheet

### Selection & Specification Data

#### Description

Raven® 405 is a 100% solids, ultra-high build, solvent free epoxy coating formulated with exceptionally high physical properties and chemical resistance. 405 exhibits a superior bond to dry and damp concrete, masonry, steel, ductile iron and fiberglass and is specifically designed as a corrosion protection and structural enhancement lining system which can be used on and in wastewater structures, buried pipelines, tanks, and other corrosive environments.

#### Typical Uses

Severe Wastewater Environment—New or existing concrete and steel structures where rehabilitation of an existing structure requires enhancement of the structural integrity and where exposure to concentrated acids and caustics may be expected. Also, designed to reduce the Inflow and Infiltration (I&I) to sewer collection systems.

#### Color & Stability (Limitations)

The Part A Resin is white; the Part B Curing Agent is blue. When mixed the product is light blue. Limited special colors are available on request. Discolorations and yellowing can and will occur upon exposure to UV (exterior applications). Discoloration or down-glossing does not affect performance.

#### Theoretical Coverage Rates

Theoretical coverage is 1604 square feet per gallon at 1 mil DFT. Actual surface coverage will depend on substrate porosity and roughness. A wet film thickness gauge or pump stroke counter may be used to determine actual coating coverage.

#### Dry Film Thickness

Recommended thickness will vary from 30 – 250+ mils per coat based on service conditions.

#### Recommended Dry Film Thickness (Typical)

Concrete, New/Smooth:	80-250+ mils DFT.
Concrete, Rough:	100-250+ mils DFT.
Concrete, Resurfaced:	80-250+ mils DFT.
Masonry/Brick:	125-250+ mils DFT.
Masonry/Brick, Resurfaced:	80-250+ mils DFT.
Steel (Carbon):	30-80 mils DFT.
Non-Ferrous Metals:	30-80 mils DFT.

#### Physical Properties (Typical) Independent Testing

Test	Method	Result
Tensile Strength	ASTM D638	>9,000 psi
Tensile Elongation	ASTM D638	>5%
Compressive Strength	ASTM D695	>18,000
Flexural Strength	ASTM D790	>15,000
Hardness, Shore D	ASTM D2240	87
Taber Abrasion, CS-17 wheel	ASTM D4060, 1 kg load/1,000 cycles	57
Adhesion, Steel	ASTM D4541	>2,500 psi
Adhesion, Concrete	ASTM D7234	Substrate Failure
VOC	Calculated	0 g/L

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and/or field application conditions may produce variances in the final system values.



# Raven® 405

## Technical Data Sheet

### Surface Preparation

#### General

Prior to coating, the substrate must be prepared in a manner that provides a uniform, sound, neutralized surface suitable for the specified coating. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits. In general, coating performance is proportional to the degree of surface preparation.

#### Steel (Immersion Service)

Clean the surface prior to surface preparation in accordance with "Solvent Cleaning" (SSPC SP- 1) to remove oil, grease, and other soluble contaminants. Surfaces to be coated should then be prepared according to SSPC SP-10/NACE No. 2 *Near-White Metal Blast Cleaning* for immersion service. The resulting angular anchor profile shall be 3.0-5.0 mils and be relative to the coating thickness specified.

#### Ductile Iron Pipe (Atmospheric and Immersion Service)

All oils, small deposits of asphalt paint and grease shall be removed by solvent cleaning (see NAPF 500-03-01). Abrasive blast to accordance with NAPF 500-03-04. More information on cleaning ductile iron pipe can be found at [www.napf.com](http://www.napf.com)

#### Steel (Atmospheric/Non-Immersion Service)

Visible deposits of oil, grease, or other contaminants shall be removed according to SSPC-SP 1 followed by SSPC SP-6/NACE No. 3 *Commercial Blast Cleaning*, resulting in a sharp angular anchor profile of 2.5-4.0 mils.

#### Concrete & Masonry

Reference SSPC SP-13/NACE No. 6 *Surface Preparation of Concrete*. Surfaces must be sound and contaminant-free with a surface profile equivalent to a minimum CSP3 to CSP5 in accordance with ICRI Technical Guideline No. 310.2R-2013. This can generally be achieved by abrasive blasting, shot blasting, high-pressure water cleaning, water jetting, or a combination of methods.

#### Primers (Suggested):

Concrete (optional)	Raven 175 Raven 171FS Raven 155
Carbon Steel (blast holding)	AquataPoxy 190* Raven 490*
Non-Ferrous Metals	AquataPoxy 190

PVC, PE, PP, PS, & HDPE- Contact Raven Tech Service

\*Do not use this primer if immersion temperatures will exceed 140°F

### Mixing & Thinning

#### Components & Mix Ratio

Part A Resin: Part B Curing Agent mix ratio is 3:1 by volume.

#### Hand Mixing (touch-up or small repairs)

Individually power mix both Part A and Part B containers prior to measuring out 3 parts of Part A to 1 part of Part B by volume into a clean disposable pail. Completely mix combined A & B for a minimum of one minute before transferring contents to a clean pail. Continue mixing at least another minute, scraping the sides and bottom, to obtain a thorough mix before application. Properly mixed material will be a uniform color without light or dark spots.

#### Thinning

Do not thin with solvents. If lower viscosity is needed, heat unmixed material by placing the containers in hot tap water until the desired flow properties are obtained. To heat larger quantities, drum heaters or inline heaters on specialized spray equipment may be used. Unmixed material should not be heated above 150°F (66°C).

#### Pot Life

The pot life is ~20 minutes for one gallon at 72°F (22°C). Longer pot life is possible by mixing smaller amounts and cooling down the part A & B before mixing.



# Raven® 405

## Technical Data Sheet

### Application & Equipment Guidelines

#### Spray Application

Optimal proportioning and mixing is achieved with the use of a Raven Lining Systems approved plural-component airless spray system. Raven recommends the use of fixed ratio (3:1), such as, Graco XP 50 or 70 Plural-Component Pump System. Viscon Fluid Heaters and heated hoses are recommended. Carefully monitor, heating devices such as drum blankets or bands to avoid scorching of the material or melting drum liners. Pre-heating containers must not exceed temperatures greater than 150°F.

#### Recommended spray temperatures

115-145°F for Part A and 90-125°F for Part B. Temperature is dependent on ambient conditions and hose lengths. To equalize viscosities and reduce operating pressure, Part A should be 20°F warmer than Part B during processing.

#### Spray Application

Heated Hose Temp	125°F-145°F
Typical Spray Pressure	1,800-3,000 psi
Recommended Tip Sizes	531-535
Pot life at whip/gun	1-2 minutes
Supply pump pressure	100 psi

#### Brush/Trowel

For touch-up and holiday repair only.

### Application & Service Conditions

#### Environmental & Substrate Conditions

Minimum recommended substrate temperature: 40°F (4°C) Maximum recommended substrate temperature: 120°F (49°C). For best results in limiting outgassing, with a primer or not, apply to prepared concrete when the substrate temperature is stable or falling.

#### Service Temperatures (Temperature Resistance)

Maximum recommended dry temperature: 150°F (66°C). May be post-cured for service up to 200°F (93°C). Wet temperature resistance depends on chemical concentration and exposure time. Contact Raven Technical Service for additional information.

### Curing Schedule & Re-Coat Window

#### Cure Time

The set time varies with substrate temperature and application thickness. Generally, the coating will be tack-free in 3 ½ hours at 72°F (22°C) and dry-hard in about 5 hours.

#### Cure to Service (Municipal wastewater):

5 hours at 60°F

#### Recoat Time

This product may be recoated as soon as it becomes tacky but does not transfer to the finger. When applying multiple coats, do not allow more than 12 hours at 72°F (22°C) substrate temperature to pass between coats, higher temperatures will shorten this window. Before recoating; visually inspect, clean and dry surface thoroughly to remove all contamination, including amine blush or condensation. If the recoat time is missed, abrade and clean surfaces prior to recoating.



# Raven® 405

Technical Data Sheet

## Cleanup & Safety

### Cleanup

To clean tools, use acetone, MEK or xylene. To clean skin, wash immediately and thoroughly with soap and water. Refer to the Safety Data Sheet (SDS) for additional information on health and safety.

### Safety

SDS's are available on the website ([www.ravenlining.com](http://www.ravenlining.com)) or upon request. All personnel should read and understand the safety recommendations as set forth in the SDS. Keep uncured product away from children at all times.

## Packaging, Handling, & Storage

### Packaging

Available in 5 gallon (19L) pails as a 20 gallon (76L) kit, 30 gallon (113.5L) drums as a 120 gallon (454L) kit, and 55 gallon (208L) drums as a 220 gallon (832L) kit. Kits are supplied in the correct proportions of A & B; and the two components must be mixed together before use. Raven 405 will only be sold to Raven Certified Applicators.

### Shelf Life

Product shelf life is 2 years from purchase date in original unopened containers.

### Storage Temperature & Humidity

Store in a sheltered area between 60°F (16°C) and 100°F (38°C).

## Warranty

Warranty and Disclaimer: Raven Lining Systems, Inc. ("Raven") warrants its products to be free of manufacturing defects in accord with applicable Raven quality control procedures and that they meet the formulation standards of Raven. To the best of our knowledge, the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. If within one (1) year from purchase, any product is proven defective, Raven, at its sole option, will either replace the defective product or refund the purchase price. This warranty is void if the product is used contrary to Raven's written directions.

THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL RAVEN BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOST PROFITS.

**ACTION BY ALL OF THE DIRECTORS  
OF  
ACE PIPE CLEANING  
BY WRITTEN CONSENT  
IN LIEU OF AN ANNUAL MEETING**

The undersigned, being all the members of the Board of Directors of Ace Pipe Cleaning Inc., a Missouri corporation (the "Corporation"), hereby waive all notice, and hereby vote for, consent to, ratify, and adopt the following actions as if the same had been duly voted for, consented to, ratified, and adopted at a duly called and convened annual meeting of the board of directors of the Corporation:

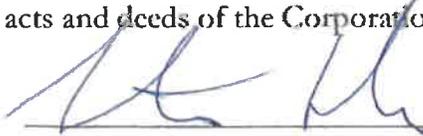
**RESOLVED**, that the following persons are hereby elected to the offices of the Corporation set forth opposite such person's name, to serve until such person's successors are elected and qualified, in accordance with the By-Laws of the Corporation:

Steve Hontz	President
Don Uberroth	Vice President
Theresa Calvert	Vice President
Bruce Vantine	Secretary / Treasurer

**FURTHER RESOLVED**, this consent may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument. This consent may be executed by facsimile, telecopy, pdf, or other reproduction, and such execution shall be considered valid, binding and effective for all purposes.

**FURTHER RESOLVED**, that any and all acts previously taken by the officers of the Corporation since the date of the last annual meeting (or written consent in lieu thereof) of the Board of Directors, are in all respects expressly ratified and confirmed as the acts and deeds of the Corporation.

Dated: January 10, 2019

  
\_\_\_\_\_  
Steve Hontz,  
Being the Sole Director of the Corporation

