

Southern California

LOGISTICS AIRPORT

PROJECT #CC21-035 BUILDING 676 ROOF REPLACEMENT

September 24, 2020

ADDENDUM 1

The attached constitutes additional information and serves to clarify issues considered to be part of the Southern California Logistics Airport Authority “**Building 676 Roof Replacement Project #CC21-035.**”

QUESTIONS

1. QUESTION: Will Interior protection be required?

ANSWER: Yes.

2. QUESTION: RE: Bid Item 105 - Would not recommend power wash or blowing roof due to F.O.D.

ANSWER: See revised Bid Item #105 in the attached Technical Specifications.

3. QUESTION: RE: Bid Item 105 - Vacuum all loose debris from metal deck after roof removal.

ANSWER: See revised Bid Item #105 in the attached Technical Specifications.

4. QUESTION: RE: Bid Item 110 - What is the minimum dry film thickness of the acrylic coating specified?

ANSWER: See revised Bid Item #110 in the attached Technical Specifications.

5. QUESTION: RE: Bid Item 109 - Thickness of foam nominal? Recommend a minimum thickness 2”.

ANSWER: See revised Bid Item #109 in the attached Technical Specifications.

6. QUESTION: What is the manufacturer warranty requirements (how many years)?

ANSWER: See Section C Scope of Work in the Solicitation Package.

7. QUESTION: 7. Recommend all coating to be High Tensile due to air pollutants and possible hail damage.

ANSWER: The Project shall be bid as specified.

8. QUESTION: Who will be responsible to protect the inside of the building after is demoed?

ANSWER: The contractor shall be responsible for interior protection.

9. QUESTION: Is any cover board over the metal substrate for the installation of the new system?

ANSWER: No coverboard will be used for this project.

10. QUESTION: Can an WEATHERWELD Roof Systems be substituted for the specified FOAM roofing system? Attached are the documents to review the substitution. I have included the technical data sheets for the system and corresponding testing for wind uplift and fire testing. The proposed substitute has UL testing for fire resistance page 5 and wind uplift testing from approve testing labs. The page from the labs report is testing that is used for the State of Florida that has the most stringent

ANSWER: No. The Project shall be bid as specified.

11. QUESTION: Please see the attached request for substitution on the subject project. These products are our preferred products for smooth application and high quality. They are also manufactured and distributed right there in southern California (about 60 miles from the airport)! I appreciate your consideration and look forward to hearing from you.

ANSWER: The Ultra-Thane 230 polyurethane foam and Ultra-Flex 1000HT acrylic elastomeric coating are approved for use. The Macropoxy 646 primer will not be accepted due to it not having a rust-inhibitor within the product. The specifications for the approved products are attached to this addendum.

12. QUESTION: Will interior protection be required during the roof removal, offloading roof debris and during new roof install.

ANSWER: Yes. The contractor shall be responsible for interior protection.

13. QUESTION: May we know the details or any information/drawings regarding the 1,700 LF metal flashing.

ANSWER: See revised Bid Item #103 in the attached Technical Specifications.

14. QUESTION: Is there an advance payment? If yes may I respectfully know how much would it be?

ANSWER: No. Please see Section A. Special Provisions, Paragraph XXXVIII. Payment.

15. QUESTION: How frequent is the progress billing?

ANSWER: Monthly. Please see Section A. Special Provisions, Paragraph XXXVIII. Payment.

16. QUESTION: May I know how many days will it take to collect from the approval by your office of our progress billing.

ANSWER: Once the request for payment has been approved, it typically takes approximately 1-2 weeks for payment to be issued.

17. QUESTION: How many billings are allowed in this project.

ANSWER: One per month for the life of the project. Please see Section A. Special Provisions, Paragraph XXXVIII. Payment.

18. QUESTION: Is substitution bond sufficient to release the retention money?

ANSWER: No. The SCLA will hold 5% retention from each payment. All retention held will be released 45 days after the Notice of Completion is accepted by SCLAA Board. Please see Section A. Special Provisions, Paragraph XXXVIII. Payment.

STATEMENTS

1. SECTION D PROPOSALS AND SUBMITTALS MODIFICATIONS:

- *Bid Proposal Form (Price Schedule)* is hereby replaced by the attached Bid Proposal Form (Price Schedule) labeled "ADDENDUM 1." **SUBMISSIONS SHALL BE MADE USING THE ATTACHED VERSION OF THE BID PROPOSAL FORM (PRICE SCHEDULE).** The revised schedule reflects the following revisions:
 - i. Bid Item 103 – Description revised to "Contractor shall remove and replace metal edge flashing and standing seam flashing"
 - ii. Bid Item 103 – Quantity revised to 2,240 LF

2. SECTION C TECHNICAL SPECIFICATIONS MODIFICATIONS:

- *Technical Specifications* is hereby replaced by the attached Technical Specifications labeled "ADDENDUM 1." The following Bid Items have been revised:
 - i. Bid Item 103
 - ii. Bid Item 104
 - iii. Bid Item 109

3. PRE-BID MEETING SIGN-IN SHEET(S):

- Pre-bid meeting sign-in sheets are attached.

4. EXHIBITS MODIFICATIONS:

- Specifications for accepted substitute material "Ultra-Thane 230" polyurethane foam is hereby added as Exhibit I.
- Specifications for accepted substitute material "Ultra-Flex 1000HT" acrylic elastomeric coating is hereby added as Exhibit J.

Should you have any questions or concerns regarding this project or any of the project documentation, please email or fax them to Celeste Calderon, Finance Specialist at cmcalderon@victorvilleca.gov or (760) 269-0045 respectively.

Please confirm receipt of this Addendum #1 by either faxing the signed acknowledgement to the City of Victorville Purchasing Division at (760) 269-0045, or by attaching it to your Bid Proposal. Failure to acknowledge receipt of this addendum may result in your proposal being rejected as non-responsive.

The undersigned hereby acknowledges receipt of ADDENDUM #1:

Name of Bidder: _____

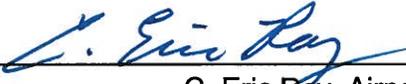
Address: _____

Telephone No: _____ Fax No: _____

Signature: _____

Title: _____ Date: _____

Addendum #1 Approved:

 _____  _____
C. Eric Ray, Airport Director Date

MANDATORY PRE-BID MEETING
PROJECT NAME: BLDG. 676 ROOF REPLACEMENT
PROJECT #: CC21-035

Tuesday, September 15, 2020 at 10:00 a.m.
Conference Room B

COMPANY NAME & REPRESENTATIVE	ADDRESS	PHONE #	FAX #	E-MAIL
City of Victorville – Celeste Calderon Finance Specialist	14343 Civic Dr. Victorville, CA 92392	760-955-5082	760-269-0045	cmcalderon@victorvilleca.gov
Airport – Eric Ray, Airport Director		760-243-1910		eray@victorvilleca.gov
James Murawski, Airport Ops & Facilities Manager		760-243-1945		jmurawski@victorvilleca.gov
Roger Christoffels, Airport Maint. Supervisor		760-243-6425		rchristoffels@victorvilleca.gov
Manuel Torres, Airport Worker II		760-243-1914		mtorres@victorvilleca.gov
Kevin Enos, Development – Bldg. Inspector		760-243-6336		kenos@victorvilleca.gov
CONTRACTORS				
AMS CONSTRUCTION – BILLY THOMPSON	1159 Iowa Ave #K Riverside, CA 92507	909-496-9468		bthompson@amsroofingconstruction.com
KLONDIKE CONSTRUCTION	592 E. State St. Ontario, CA 91761	909-395-0160		klondikeconstruction@gmail.com
AMERICAN SERVICES	300 South Walnut Ave. San Dimas, CA	714-487-9607		otniel@asgofca.com
BEST CONTRACTING – FERNANDO CHAVEZ	19027 S. Hamilton Ave. Gardena, CA 90248	310-420-0872		fchavez@bestcontracting.com estimating@bestcontracting.com
BEST CONTRACTING – JIM ADIB	4301 Battencourt Way, Union City CA 94587	510-886-7240		info@bestcontracting.com
BEST CONTRACTING -	19027 Hamilton Gardena, CA 90248	310-328-6969		jadir@bestcontracting.com

COMPANY NAME & REPRESENTATIVE	ADDRESS	PHONE #	FAX #	E-MAIL
WEATHERWELD ROOFING – KODY BERRY		760-906-3691		kody@weatherweld.com
4SEASONS ROOFING – ANIBAL CABRAL	1300 W. Colegrove Ave Montebello, CA 90640	323-726-9615		fseasonsrng@aol.com
UNIVERSAL COATINGS – MIKE WALTON	PO Box 11127 Fresno, CA 93771	559-233-6300		michael@universalcoatings.net
BRAZOS URETHANE – JOHN KEMMER	28770 Ave. 14 ½ Madera, CA 93638	559-547-7780		j.kemmer@brazosurethane.com
AMERICAN FOAM EXPERTS – NICK STEPPS	2950 Buskirk Ave. Ste 300 Walnut Creek, CA 94597	925-542-2233		nick@americanfoamexperts.com
COOL-ROOF SYSTEMS – WILL EVANS	836 Rancheros Dr Suite B, San Marcos, CA 92069	760-468-6884		will@cool-roofsystems.com
HOUCK CONST. – JANET PERFECTO ANGEL MEDINA – SAMANTHA DALE	1531 Pontius Ave. LA	310-980-5600		jperfecto@houckinc.com amedina@houckinc.com
COOK COATINGS – CARY COOK MIKE COOK	41680 Enterprise Circle South, Ste C, Temecula	951-232-8340 760-514-3668		Carycook50@gmail.com cookcoatingsinc@yahoo.com
WESTERN PACIFIC ROOFING – ZACH ZAMRZLA	2229 E. Ave. Q Palmdale, CA 93550	661-273-1336		zach@westpacroof.com jhee@westpacroof.com
BELL ROOF CO. – DAVID LENAKER	636 South "I" St. San Bernardino, CA 92410	909-520-6727		david@bellroofcompany.com
AMERICAN POLYTECH COATING – GERRY PENCE	13141 Chickasaw Etiwanda, CA 91739			Gerardo.pence@apcsinc.net
HIGHLAND GEN CONTRACTOR – FRANKSHUA MERIOS	7423 Olive Tree Ln Highland, CA 92346	909-782-5145		H.G.CONTRACTOR@OUTLOOK.COM

TL VETERANS CONST. HARRISON LEE	520 La Fayette Park Pl Unit 101 LA 90057	213-325-2725	Harrison.lee@tlveterans.com
ALLIANCE CONTRACTOR – RUBEN BERNAL	14125 Telephone Ave.#8 Chino CA 91710	510-264-9900	bernal@alliance-contracting.com
LETNER ROOFING – JESUS RAMIREZ	1490 North Glassell St. Orange CA 92867	714-633-0030	jramirez@letner.com
EVEREST SYSTEMS – JUSTIN TAYLOR	13762 Santa Lucia Rancho Cucamonga, CA 91759	909-908-9538	jtaylor@everestisco.com
HENRY – DAVID MATTINGLY GIDEON BROWN	2270 South Castle Harbour Place, Ontario, CA 91761	918-527-8781	dmattingly@henry.com gbrown@henry.com

**SOUTHERN CALIFORNIA LOGISTICS AIRPORT AUTHORITY
CC21-035 BUILDING 676 ROOF REPLACEMENT**

BID PROPOSAL FORM (PRICE SCHEDULE)

The undersigned declares that he has carefully examined the site of the proposed work, the proposal, plans, Specifications, Special Provisions, and other Contract Documents. Bidder shall satisfy themselves to the character, quality, and quantities of work to be performed, availability of materials, tools, equipment, incidentals and labor to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications to complete all the work for Building 676 Roof Replacement, Project CC21-035 in accordance with all the provisions of the Contract Documents for the prices set forth in the following schedule:

BID ITEM	DESCRIPTION	UOM	BID QTY.	UNIT PRICE	TOTAL
101	Mobilization	LS	1		
102	Contractor shall complete the removal of original roof to expose the metal decking	SF	71,000		
103	Contractor shall remove and replace metal edge flashing and standing seam flashing	LF	2,240		
104	Contractor shall replace metal decking with 1.5" narrow rib roof deck reconstructed as original	SF	18,000		
105	Cleaning metal roof decking	SF	71,000		
106	Contractor shall remove and replace all drains	EA	12		
107	Contractor shall remove protrusions from roof	EA	13		
108	Prime metal roof decking	SF	71,000		
109	Apply 2" Spray Polyurethane Foam (SPF) on roof	SF	71,000		
110	Apply acrylic elastomeric protective coating	SF	71,000		
	TOTAL BID				\$

TOTAL BID IN NUMBERS \$ _____

TOTAL BID IN WORDS: _____

Contractor: _____

By: _____

Signature _____ Date _____

**SOUTHERN CALIFORNIA LOGISTICS AIRPORT AUTHORITY
CC21-035 BUILDING 676 ROOF REPLACEMENT**

TECHNICAL SPECIFICATIONS

<u>Bid Item</u>	<u>Description</u>
101	Mobilization shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items. This item shall include personnel training, where the contractor shall send 2-4 employees to an Airport Badge Training course to obtain an airport badge for Gate/ AOA access. This training is approximately 2-3 hours in length and requires passing a written test prior to airport badge being distributed. This bid item shall be limited to 3 percent of the total project cost.
102	Contractor to remove and properly dispose of approximately 71,000 square feet of roof, including all flashing, as shown on Exhibit A. An asbestos report has been included which shows no asbestos present. The nominal thickness of the roof layers is approximately 5" as shown on Exhibit B. Core samples are available for contractor inspection at time of bid walk. This item requires landfill site disposal trip tickets be remitted to the Authority prior to payment for this item.
103	Contractor shall remove and replace approximately 1,700 linear feet of metal edge flashing and approximately 540 linear feet of standing seam flashing similar to what was removed.
104	Contractor shall clean and vacuum all metal decking. Asphalt mastic shall be scraped off.
105	<p>Inspection and marking of roof deck sections will take place after roofing has been completely removed and cleaned. The inspection will be performed by the City Inspector, an Authority appointed representative, and contractor appointed representative. The purpose of the inspection will be as follows:</p> <ol style="list-style-type: none"> 1. To comply with the City Inspector requirements to ensure that all rusted roof deck is removed. If more than 50% of a 3' x 20' metal roof panel is covered in rust, the whole panel must be replaced 2. Ensure the Authority is satisfied that enough suspect roof deck is removed and replaced. 3. To determine the total square footage and locations of metal roof decking to be removed and replaced, including areas which were covered with plywood. <p>Contractor shall provide all materials for replacement/repair of all metal decking identified during inspection. The metal roof decking shall be replaced with 1.5" narrow rib roof deck (Exhibit C). Contractor shall provide product submittal prior to construction. The metal roof decking shall be reconstructed as follows:</p> <ol style="list-style-type: none"> 1. Metal deck repairs shall overlap existing roof deck by at least 4". 2. Metal roof decking will be fastened with #10 self-tapping screws, spaced 6" apart, with sufficient length to penetrate the joist, where needed. 3. No repair or replacement of metal deck shall be smaller than 3' x 4'. 4. This item shall be paid per square footage of existing metal roof decking removed. 5. With regards to repairs performed pursuant to Bid Item #107, metal roof decking may be smaller than 3' x 4', as long as there is a 4" overlap over existing roof deck.
106	Contractor shall remove and replace all existing drains with new drains similar to that shown in original roof plans (Exhibit D). Contractor shall provide all materials and labor. Contractor shall provide product submittal prior to construction.

107	Contractor shall remove and dispose of all 13 protrusions (Exhibit E). All protrusions shall be removed below the roof deck and holes will be repaired with metal roof decking. Due to lack of space to reach many areas of the roof deck from below, roof deck may be removed to access protrusions to allow for cutting. The repair of these holes will be performed and paid via Bid Item #105.
108	Contractor shall provide and apply Everest Everprime Metal Rust Inhibitive Primer, or equivalent, to the metal roof decking at a rate of 1 gallon per 100 square feet of metal roof decking (Exhibit F). Areas of metal roof decking with light rust or light residual mastic shall receive two coats. Contractor shall provide product submittal prior to construction.
109	Contractor shall provide and apply spray polyurethane foam (SPF) Everest Closed-Cell Roofing Foam System, or equivalent, in accordance with manufacturers specifications and instructions (Exhibit G). SPF shall be applied at a 2" nominal thickness on entire roof, with two passes of 1" each. Contractor shall ensure proper slope to allow for drainage to the roof drains. The SPF shall be uniformly terminated a minimum of 4" above the roofline at all penetrations (except drains). The final sprayed polyurethane foam shall be smooth and free of surface deformities. Foam surfaces termed "popcorn" or "treebark" are not acceptable (Exhibit I). Such defective areas shall be removed and refoamed to an acceptable surface. Contractor shall provide product submittal prior to construction.
110	Contractor shall provide and apply three coats of Henry Permax 108 Elastomeric Acrylic coating, or equivalent, in accordance with manufacturers specifications and instructions (Exhibit H). The three coats will consist of a white base coat, gray middle coat, and white topcoat, with each coat equating to 14 mils dry. No granules will be added to the final coating. After each coat of elastomeric has been applied, the cured dry film thickness shall be checked by taking slit samples and examining under magnification. Areas that are found to have less than the thickness specified shall require additional elastomeric coating. Contractor shall provide product submittal prior to construction.



TECHNICAL DATASHEET

ULTRA-THANE 230
ROOFING

RIGID POLYURETHANE FOAM

PRODUCT DESCRIPTION

ULTRA-THANE 230 is a two component spray-in-place rigid monolithic polyurethane foam insulation. This product can be formulated in a variety of densities to accommodate a broad range of applications. ULTRA-THANE 230 contains no ozone-depleting chemicals.

USES

ROOFING: ULTRA-THANE 230 is used extensively as a superior thermal insulation and waterproofing product for new and remedial roofing.

COLD STORAGE: ULTRA-THANE 230 is the insulation of choice for maintaining the rigid climatic conditions of many cold storage buildings.

TANK INSULATION: ULTRA-THANE 230 is an excellent insulation for hot and cold storage vessels.

BUILDING AND FIRE CODES

Local Building Authority should be consulted if ULTRA-THANE 230 is used as an insulation material on interior applications.

ULTRA-THANE 230 is listed and complies with the California State Fire Marshall

ULTRA-THANE 230 has been independently tested (Report #: 319356MDI-002) and evaluated by ICC and determined to meet the following building codes: IBC, IRC and IECC. Additionally ULTRA-THANE 230 meets the "Standard Test Methods for Fire Tests of Roof Coverings" and exceeds ASTM E84/UL 790 (A) and ASTM E108/UL 723 fire ratings.

Fire Hazard Classifications*

SURFACE BURNING ASTM E-84/UL 723		FLAMMABILITY ROOF DECK CONSTRUCTION ASTM E-108/UL 790	
Flame Spread	<75	Class A	New Construction
		Class A	Maintenance and Repair

*These numerical flame spread ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

Liquid Component Properties

PROPERTY	DENSITY			
	1.5	2.0	2.5	3.0
Viscosity 25°C				
Component A	200	200	200	200
Component B	200	340	500	625
Specific Gravity 25°C				
Component A	1.24	1.24	1.24	1.24
Component B	1.18	1.20	1.19	1.18
Mix ratio by volume (A/B)	50/50	50/50	50/50	50/50

Exhibit I



ULTRA-THANE 230

Processing Characteristics

PROPERTY	72°F(HAND MIX)			SPRAYED*		
	Winter	Regular	Summer	Winter	Regular	Summer
Cream Time	4 Sec.	5 Sec.	6 Sec.	1-2 Sec.	1-2 Sec.	1-2 Sec.
Rise Time	15-16 sec.	19 sec.	22 sec.	4-5 sec.	5-6 sec.	6-7 sec.
Tack Free	On Rise	On Rise	On Rise	On Rise	On Rise	On Rise

*Nominal 1" thickness sprayed through Gusmer Model H-11 proportioner with GX-7 Gun; preheat set at 110°F, hose heat set to maintain 110°F at the spray gun. Reaction times are influenced by mix efficiency of the spray gun, temperature of the components, ambient conditions and thickness of the foamed mass.

Nominal Cured Physical Properties

PROPERTY	ASTM TEST METHOD	DENSITY		
		2.0	2.5	3.0
Sprayed-in-place Density	D-1622	2.0	2.5	3.0
K-factor Aged	C-518	.14	.15	.16
Compressive Strength	D-1621	26 psi	45 psi	50-60 psi
Tensile Strength	D-1623	45 psi	60 psi	90 psi
Shear Strength	C-273	35 psi	45 psi	50-60 psi
Closed Cell Content	D-1940	93%	95%	98%
Water Vapor Transmission	C-355	1.9 perms	1.8 perms	1.8 perms
Water Absorption	D-2842	.019	.017	.017
Wind Uplift	FM-4470	>I-450	>I-450	>I-450

This information is intended only as a guide for design purposes. The values shown are the average values obtained from laboratory prepared samples and results may vary with application conditions, equipment and technician.

K-Factor varies depending on age and use conditions.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors

Dimensional Stability Properties

ASTM D-2126

DAYS	°F	°C	%R.H.	AV
28	-20	-29	DRY	N/C
28	158	70	100%	+7%
28	158	70	DRY	+1%

SHELFLIFE

Shelf life of ULTRA-THANE 230 is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50° - 75° F. Temperatures above 75° F may decrease shelf life.

FREIGHT CLASSIFICATION

Liquid Plastic Material -- NOIBN

CAUTION

The use of foamed plastic in interior applications on walls or ceilings may present an unreasonable fire hazard unless the foam is protected by an approved, fire-resistive thermal barrier which has a finish rating of not less than 15 minutes.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Exhibit I



Processing Guide

DESCRIPTION AND GENERAL USE

ULTRA-THANE 230 systems are light density spray polyurethane insulations designed to be fluid-applied to construction surfaces to effect a permanent, monolithic and dimensionally stable thermal insulation.

ULTRA-THANE 230 systems are a sophisticated plural component building product which should be applied only by trained and manufacturer-approved insulation experts familiar with the properties of this material.

ULTRA-THANE 230 systems are specifically designed as insulation for construction applications where the end use ambient temperature range will be maintained between -100°F and 225°F. When considering any other use for this product, consult General Coatings Manufacturing Corp. for specific application recommendations.

SUBSTRATE PREPARATION

For optimum results, surfaces to receive ULTRA-THANE 230 should be clean and dry, free of dirt, oil, solvent, grease, loose particles, peeling coating and other foreign matter. Untreated ferrometallic substrates should be sandblasted in accordance with SSPC-SP6. Sandblasted surfaces should be primed immediately with an approved primer.

Galvanized and stainless steel surfaces should be treated with an appropriate wash primer prior to the application of ULTRA-THANE 230.

Porous substrates such as wood and concrete may not require priming if surfaces are clean and dry with less than 10% moisture content. **FOR BEST RESULTS ON SURFACES WHERE MOISTURE CONTENT CANNOT BE DETERMINED OR CONTROLLED, PRIMING IS RECOMMENDED.** Consult General Coatings Manufacturing Corp. for specific application requirements.

SUBSTRATE TEMPERATURE

ULTRA-THANE 230 systems may be applied to surfaces with temperatures as low as 50 deg. in most instances. Please consult with General Coatings Manufacturing Corp. technical representatives for certain requirements.

AMBIENT AIR TEMPERATURE

Winter	Regular	Summer
50 - 60°F	65 - 85°F	Above 90°F

GENERAL COATINGS MANUFACTURING CORP. TECHNICAL SERVICE PERSONNEL SHOULD BE CONSULTED IN ALL CASES WHERE APPLICATION CONDITIONS ARE MARGINAL.

EQUIPMENT

Proportioning equipment shall be manufactured by Gusmer, Graco or Glas-Craft. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be heated airless type, capable of maintaining 120°F to 140°F mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions.

SPRAYING

ULTRA-THANE 230 systems should be deposited in uniform passes ranging from 1/2" to 1 1/2". Pass thicknesses will vary as a function of substrate temperature, ambient air temperature and machine output. ULTRA-THANE 230 systems bond best to themselves when the previous pass is still warm (above 70°F). ULTRA-THANE 230 performs best when coated the same day of application, however it may be left exposed for up to 24 hours. In the event that ULTRA-THANE 230 is exposed for a period greater than 24 hours, please contact General Coatings Manufacturing Corp. for recommendations.

CLIMATIC CONDITIONS: No spraying should be done when moisture is present in the form of rain, dew or relative humidity greater than 80%, or when there is wind in excess of 15 m.p.h.

PROTECTIVE COATING

ULTRA-THANE 230, when applied to exterior weathering surfaces, must be top coated with an approved elastomeric coating. All coatings shall be applied in accordance with General Coatings Manufacturing Corp. or other coating manufacturer's instructions.

FIRE AND THERMAL BARRIER

ULTRA-THANE 230 polyurethane insulation systems are combustible under many fire conditions. A fire and thermal protection have a UL rated 15-minute finish rating should be used to cover all ULTRA-THANE 230 systems used on interior wall or ceiling applications.

SPECIAL NOTE

Particular attention must be paid to coating selection in applications where a vapor drive may be present. Consult General Coatings Manufacturing Corp. technical service personnel for specific system recommendations.

STORAGE

Both liquid components of ULTRA-THANE 230 systems should be stored in original unopened containers at temperatures between 50°F and 75°F. Note: Storage for prolonged periods of time at high temperatures may alter the reactivity profile of the product. Additionally storing the B component at increased temperatures or in direct sunlight for prolonged periods may cause a build up of pressure in the storage vessel. Use caution in opening containers of ULTRA-THANE 230. Containers should be opened slowly to allow the release of any pressure buildup.

Exhibit I



Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on the ULTRA-THANE 230 systems. All personnel who will come in contact with the product should read and understand the MSDS.

PROTECTIVE EQUIPMENT

Since the ULTRA-THANE 230 systems are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. Component "A" ULTRA-THANE systems are polymeric isocyanate and, as such, can be very sensitizing, particularly from the standpoint of **VAPOR INHALATION**. Some other ingredients may be sensitizing from the standpoint of **SKIN CONTACT OR EYE CONTACT**.

VAPOR INHALATION

The best form of protection against isocyanate or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, the use of fabric overalls and fabric gloves is recommended.

EYE CONTACT

Wear a full face mask or OSHA-compliant protective goggles.

PROTECTION OF THE WORKPLACE

Overspray from ULTRA-THANE 230 systems can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with clean water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings using soap and water. If a rash or other irritation develops, **SEE A PHYSICIAN**.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties, and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedure shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Exhibit I



TECHNICAL DATA SHEET

ULTRA-FLEX 1000 HT HIGH TENSILE

WATERBORNE ACRYLIC ELASTOMER

DESCRIPTION AND USE

ULTRA-FLEX 1000 HT is a high-solids, heat-resistant, single-component water-borne acrylic elastomeric coating. *ULTRA-FLEX 1000 HT* is formulated to have excellent adhesion to polyurethane foam as well as other properly prepared construction surfaces. *ULTRA-FLEX 1000 HT* features include:

1. Ease of application
2. Outstanding UV resistance
3. Excellent low temperature flexibility
4. Non-flammable; water clean-up
5. Excellent dirt pickup resistance
6. Excellent fungus & mildew growth resistant

COLORS

Standard colors are Dark Gray, Light Gray and White. Other colors are available on special order.

COVERAGE

ULTRA-FLEX 1000 HT has a theoretical dry film thickness of 9.6 mils when applied at 1 gallon per 100 square feet.

STORAGE STABILITY

ULTRA-FLEX 1000 HT has a minimum shelf life of one year when stored at temperatures between 40°F and 80°F. Caution should be exercised to prevent material from freezing.

THINNER

ULTRA-FLEX 1000 HT should be applied directly from the container without thinning.

PRIMER

Sprayed Foams: No primer necessary. Consult manufacturer for application to other surfaces.



APPLICATION INSTRUCTIONS

ULTRA-FLEX 1000 HT must be mixed thoroughly prior to application to assure uniformity. All special colors should be mixed prior to application to assure uniform dispersion of the pigments. *ULTRA-FLEX 1000 HT* may be applied by brush or roller, and by either conventional or airless spray equipment. Surfaces to which *ULTRA-FLEX 1000 HT* is to be applied shall be free of water, grease, oils, dirt, debris, and other foreign materials.

CREDENTIALS AND CERTIFICATIONS

ULTRA-FLEX 1000 HT exceeds all the minimum requirements for ATSM D6083.

ULTRA-FLEX 1000 HT is:

- Title 24 Compliant
- CRRC Listed
- Energy Star Rated

CURE TIMES

ULTRA-FLEX 1000 HT, when applied at 22 wet mils and at conditions of 75°F and 50% relative humidity, will dry to the touch in 2 hours, may be recoated in 8 hours, and will reach final cure in 24 hours. Colder weather and/or higher humidity will retard curing, whereas hotter weather and/or lower humidity will accelerate curing.

RECOMMENDED THICKNESS

ULTRA-FLEX 1000 HT, when used as a protective membrane over polyurethane foam, should be applied to a minimum of 24 dry mils in two applications. Coarse or textured surfaces may require more coating to obtain the desired dry film thickness.

		Initial	Weathered
	Solar Reflectance	.89	.69
	Thermal Emittance	.90	.88
	Rated Product ID	0684-0004	
	Licensed Manufacturer ID	0684	
Classification	Acrylic Coating		
<small>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</small>			
<small>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating procedure.</small>			

Exhibit J

ULTRA-FLEX 1000HT

Nominal Liquid Properties

LIQUIDPROPERTY	TESTMETHOD	VALUE
Solids by Volume	ASTM D-2697	56%
Solids by Weight	ASTM D-2697	66%
Flash Point	ASTMD-56	212°F

Nominal Cured Properties

PHYSICALPROPERTY	TESTMETHOD	VALUE
Elongation	ASTM D-2370	450%
Tensile Strength	ASTM D-2370	450 psi
Permanent Set at Break	ASTMD-412	12%
Tear Resistance (Die C)	ASTMD-624	175 PLI
Water Absorption	ASTMD-471	3%
Tension Set @ 100%	ASTMD-412	0%
Durometer hardness: Shore A	ASTM D-2240	72
Permeability (U.S. perms)	ASTM D-1653	8
Severe Hail Test	FM 4470	Pass (28 Mils)
Adhesion to Foam	ASTM D-903	2.6 PLI Wet
Flexibility 1/8" Mandrel	ASTMD-522	Pass - 10°F
Fungi Resistance	ASTMG-21	Zero
Dry Adhesion	ASTMD-903	4.2
Accelerated Weathering Elongation	ASTM D-2370	480%
Water Swelling	ASTM C-471	2

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WEATHERING AND ULTRAVIOLET RESISTANCE

ULTRA-FLEX 1000 HT had excellent appearance with no significant discoloration, checking, cracking, delamination or loss of flexibility and only slight chalking after 6,000 hours QUV accelerated weathering according to ASTM G-53, and 8,000 hours Atlas xenon or carbon arc weatherometer exposure according to ASTM D-822 and ASTM G-26.

SAFETY, HEALTH & TOXICITY DATA

ULTRA-FLEX 1000 HT is intended for application only by professional trained applicators. Avoid breathing of vapor or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. ULTRA-FLEX 1000 HT should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

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Exhibit J