



DEPARTMENT OF PURCHASING & CONTRACT COMPLIANCE

Winner 2000 - 2009 Achievement of Excellence in Procurement Award
National Purchasing Institute

Cecil S. Moore, Director



REQUEST FOR QUOTE NUMBER:

11DW77130C

WILL BE RECEIVED UNTIL

2:00 PM

February 24, 2011

DESCRIPTION: GALVANIZED PLATE PAINTING AT THE MEDICAL EXAMINERS BUILDING
DEPARTMENT: GENERAL SERVICES DEPARTMENT

Effective September 1, 2008, the Department of Purchasing & Contract Compliance will only accept responses to quotes electronically using our on-line Vendor Self Service system at www.fultonvendoreselfservice.co.fulton.ga.us . You must be a registered vendor in order to respond to quotes.

ANY QUESTIONS REGARDING PURCHASING PROCEDURES OR THE SPECIFICATIONS SHOULD BE ADDRESSED ONLY TO THE PURCHASING CONTACT PERSON LISTED BELOW. BIDDERS MAY NOT HAVE CONTACT WITH COUNTY OFFICERS, ELECTED OFFICIALS OR COUNTY EMPLOYEES REGARDING THIS BID PRIOR TO AWARD OF PURCHASE ORDER. VIOLATION OF THIS INSTRUCTION WILL RESULT IN YOUR BID BEING FOUND NON-RESPONSIVE.

CONTACT NAME:
DIANN WASHINGTON

E-Mail Address :
diann.washington@fultoncountyga.gov

Telephone Number:
404-612-1100

All information requested on this sheet must be completed. Unless specifications indicate "NO SUBSTITUTE", items determined by Fulton County to be "EQUAL OR BETTER" will be given full consideration. All prices QUOTED must be "FOB DELIVERED" unless otherwise requested, and must be submitted in the format requested. The County reserves the right to cancel the solicitation and to reject any or all quotes in whole or in part and is not bound to accept any quote if rejection of that quote is determined to be contrary to the best interest of the County.

Company Name:

Company Address:

City

State

Zip Code

Telephone Number:

Fax Number:

E-Mail Address:

RESPONSES MUST BE SUBMITTED ON-LINE AT www.fultonvendoreselfservice.co.fulton.ga.us BY THE TIME AND DATE INDICATED.

Person submitting QUOTE: (Please Print)

Date

Title

\*Signature of the person submitting QUOTE:

\*Person submitting this e-quote has binding authority to submit contracts on behalf of the responding company. By submitting a response, vendor agrees that their quote is an offer to sell. All bidders shall comply with all Fulton County purchasing laws, policies, and procedures, as well as relevant state and federal laws— including compliance with EEOC hiring guidelines and requirements under the Americans with Disabilities Act.

**REQUEST FOR QUOTE  
GENERAL TERMS AND CONDITIONS**

The following provisions are hereby made a part of this Request for Quote. Any contract or purchase order awarded as the result of this request shall be governed by these General Terms and Conditions. By submission of your responses to this quote, vendor agrees to furnish the product(s) and/or service(s) pursuant to these conditions.

1. **GENERAL.** These provisions are standard for all County contracts. The County may delete or modify any of these standard provisions for a particular contract or purchase order by indicating a change in the special instructions or provisions. **Any vendor accepting a purchase order award as the result of this request agrees that the provisions included within this Request for Quote shall prevail over any conflicting provision within any standard form contract of the vendor.**
2. **SUBMISSION OF RESPONSES.** Responses must be submitted for quotes on-line via the Vendor Self Service system at <https://fultonvendorselfservice.co.fulton.ga.us/webapp/VSSPROD/Advantage>. Response to quotes must be received no later than 2:00 p.m. on the date indicated.
3. **AMENDMENTS TO THE REQUEST FOR QUOTE.** Any amendment to pricing is valid only if in writing and issued by the County.
4. **NON-COLLUSION.** Bidder certifies that this bid is made without prior understanding, agreement or connection with any other corporation, firm or person submitting a bid for the same work, labor or service to be done or the supplies, materials or equipment to be furnished and is in all respects fair and without collusion or fraud. Bidder further understands collusive bidding is a violation of state and federal law and can result in fines, prison sentences and civil damage awards. Bidder agrees to abide by all conditions of this bid and certifies that person signing is authorized to sign this bid or proposal for the bidder.
5. **CONFLICT OF INTEREST.** Vendor states that no County officer or employee, nor any business entity in which they have an interest: a) Has an interest in the contract awarded; b) Has been employed or retained to solicit or aid in the procuring of the resulting contract; c) Will be employed in the performance of such contract without immediate disclosure of such fact to the County.
6. **BASIS OF AWARD.** The County shall award to the overall lowest responsible and responsive vendor complying with the provisions of the Request for Quote. The following criteria may be considered by the County in selecting the most advantageous quote: a) Ability to perform the service required within the specified time; b) Conformance to specification; c) The quality of performance in previous contracts; d) Financial ability to perform the contract; e) Item pricing; f) vendor references. The County reserves the right to cancel the solicitation and to reject any or all quotes in whole or in part and is not bound to accept any quote if rejection of that quote is determined to be contrary to the best interest of the County.
7. **SAMPLES.** Samples of items when required, must be furnished free of expense to the County and upon request, be returned to the Vendor at the Vendor's expense. Samples of selected items may be retained for comparison purposes.
8. **NEW.** All items bid must be new. Used, rebuilt and refurbished items will not be considered unless specifically authorized by Fulton County in the written specifications.
9. **BRAND NAME SPECIFICATIONS AND APPROVED EQUIVALENTS.** Unless otherwise specified, manufacturer's names, trade names, brand names, information and/or catalog numbers listed in the specifications are intended only to identify the quality and characteristics desired. They are not intended to limit competition. The Vendor may offer any equivalent product which meets or exceeds the specifications. If quotations are based on equivalent products, the quote must: a) Indicate the alternate manufacturer's name and catalog number; b) Include complete descriptive literature and/or specifications; c) Include proof that the proposed equivalent will meet the specifications. The County reserves the right to be the sole judge of what is equal and acceptable to meet its needs in all respects. If Bidder fails to name a substitute, goods identical to the published standard must be furnished.
10. **INDEMNIFICATION.** Contractor/Vendor hereby agrees to release, indemnify, defend and hold harmless the County, it's Commissioners, officers, employees, subcontractors, successors, assigns and agents from and against any and all losses (including death), claims, damages, liabilities, costs and expenses (including but not limited to all actions, proceedings, or investigations in respect thereof and any outcome of any such action, proceeding, or investigation), caused by, relating to, based upon or arising out of any act or omission

by contractor, it's directors, officers, employees, subcontractors, successors, assigns or agents, or otherwise in connection with it's acceptance, of the performance, or nonperformance, of it's obligations under this agreements.

11. **TAXES.** Fulton County is exempt from the State of Georgia sales tax and exemption certificate will be furnished upon request.
12. **DELIVERY.** All prices must be FOB Destination, unloaded inside and assembled unless otherwise indicated.
13. **RIGHTS AND REMEDIES OF COUNTY FOR DEFAULT.** If any item furnished by the Vendor fails to conform to specifications, or to the sample submitted by the Vendor, the County may reject it. Upon rejection, the Vendor must promptly reclaim and remove such item without expense to the County, and shall immediately replace all such rejected items with others conforming to such specification and samples. If the Vendor fails to do so, the County has the right to purchase in the open market a corresponding quantity of any such items and to deduct from any monies due the Vendor the difference between the prices named in the purchase order and the actual cost to the County. If the Vendor fails to make prompt delivery of any item, the County has the right to purchase such item in the open market and to deduct from any monies due the Vendor the difference between the prices named in the purchase order and the actual replacement cost to the County. The rights and remedies of the County identified above are in addition to any other rights and remedies provided by law or under the purchase order.
14. **INVOICES AND PAYMENT TERMS.** Invoices are to be mailed to the County department specified on the resulting purchase order or master agreement. All invoices must include the purchase order number or master agreement number. Failure to comply may result in delayed payments. The County payment terms are Net 30 days unless a cash discount is allowed for payment within not less than twenty (20) days. The payment term shall begin on the date the merchandise is inspected, delivered and accepted by the County and the correct invoice is received in the office specified on the purchase order.
15. **LEGAL REQUIREMENTS.** Federal, State, County and local ordinances, rules and regulations, and policies shall govern development, submittal and evaluation of quote and disputes about quotes. Lack of knowledge by any Vendor about applicable law is not a defense.
16. **ASSIGNMENT.** Any purchase order awarded shall not be assignable by the Vendor without the express written approval of the County, and shall not become an asset in any bankruptcy, receivership or guardianship proceedings.
17. **REJECTION OF BID.** Bids may be considered irregular and may be rejected if they show omissions, alternations of form, additions not called for, conditions, limitations, unauthorized alternate bids or other irregularities of any kind. The County reserves the right to waive minor technicalities or irregularities of bid.
18. **TERMINATION.** In the event any of the provisions of the purchase order are violated, the County may serve written notice of its intention to terminate the purchase order. Such notice will state the reason(s) for such intention, and unless within ten (10) days after serving notice upon the contractor, such violation has ceased and satisfactory arrangements for correction made, the purchase order shall, upon expiration of ten (10) days, be terminated. Further, the County reserves the right to terminate for its convenience any purchase order in whole or in part upon giving thirty (30) days prior written notice to the other party.
19. **DEBARMENT.** If a Bidder is presently debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from doing business with any government agency which prohibits your firm from participating in any procurement, the Bidder must provide the County with that information as part of its response to this solicitation. Failure to fully and truthfully provide the information required, may result in the disqualification of your bid from consideration or termination of the purchase order, once awarded.
20. **RIGHT TO PROTEST.** Any actual or prospective Bidder who is aggrieved in connection with a solicitation or award of a contract/purchase order must submit its protest in writing to the Director of Purchasing & Contract Compliance, 130 Peachtree St. S.W., Suite 1168, Atlanta, GA 30303. A protest must be submitted to the Director of Purchasing & Contract Compliance in writing within 14 days after such aggrieved entity knows or should have known of the solicitation, the award of contract/purchase order to another or other acts giving rise to a protest. An oral protest or a protest to an official, employee, user department, or other person apart from the Director of Purchasing does not comply with Fulton County Code Section 2-324 and does not toll the protest time period.

## REQUEST FOR QUOTE SPECIFICATIONS

Quote Number: 11DW77130C

Opening Date: February 24, 2011

### Galvanized Plate Painting General Services Department

#### 1. DESCRIPTION

The Fulton County Department of Purchasing & Contract Compliance is soliciting quotes from qualified vendors to provide painting over hot dip galvanized steel plates at the Medical Examiners Office located at 430 Pryor St., Atlanta, GA 30303 for the General Services Department.

#### 2. CONTACT PERSON

Please contact Diann Wathington, Procurement Officer at (404) 612-1100 or by e-mail [diann.wathington@fultoncountyga.gov](mailto:diann.wathington@fultoncountyga.gov), with any procedural or technical questions. All questions should be submitted in writing to the Purchasing contact person. Any responses made by the County will be provided in writing to all Bidders by addendum. No verbal responses shall be authoritative.

You must be registered in the County's AMS System in order for the Department of Purchasing & Contract Compliance to issue your company a Purchase Order or to receive payments. If you are not a registered vendor you may access and complete the vendor application via the County's Vendor Registration website ([www.fultonvendorselfservice.co.fulton.ga.us](http://www.fultonvendorselfservice.co.fulton.ga.us)). You must provide a copy of your current Business License in order to complete the vendor registration process.

If your company is a registered vendor, you can respond to all quotes online and in real time on this website.

#### 3. PRODUCT/SERVICE SPECIFICATIONS

##### **Abstract:**

- Duplex systems, also known as painting over hot dip galvanized steel, are extremely effective corrosion protection systems. However, careful surface preparation techniques need to be used to alleviate potential coating failures.
- Use the age and characteristics of the galvanized coating to determine what type of surface preparation is needed.

##### **INTRODUCTION**

- Hot-dip galvanized steel parts or assemblies are often required to be painted. The reason for painting can be to identify the particular structure, for architectural reasons, to provide a particular type of protection, or to extend the service life of an existing structure. The combination of a paint system with a hot-dip galvanized coating is often referred to as a "duplex system". When paint and galvanized steel

are used together, the corrosion protection is superior to either protection system used alone.

- The application of a paint system onto a hot dip galvanized surface requires careful surface preparation and a good understanding of both corrosion protection systems. The margin for error is very small when dealing with newly galvanized steel surface preparation. However, there have been many examples of paint adhesion problems on older or more moderately aged galvanized steel surfaces, and the most common cause is improper or incomplete surface cleaning and preparation. When the surface is cleaned and prepared correctly the combined paint and galvanized steel corrosion protection system gives extremely long lifetimes. If the paint is properly maintained on the galvanized surface there is practically no limit on the life of the structure in terms of corrosion attack.
- The adhesion of paint onto galvanized steel becomes a very small problem when the galvanized coating has weathered for at least a one-year period. The zinc corrosion products form a very dense, insoluble protective layer that accepts a paint coat readily. A brand new galvanized coating also experiences few adhesion problems within the first 24 to 48 hours after coating.

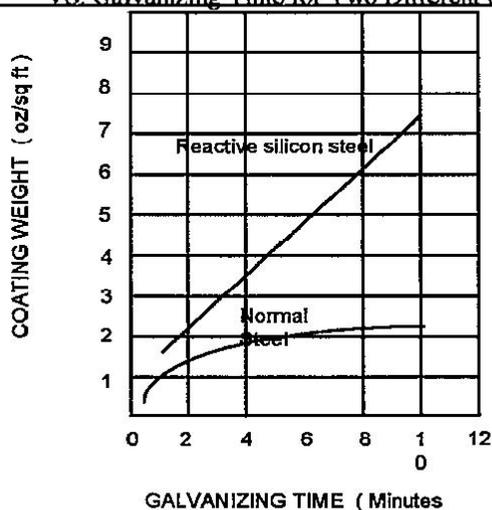
### **GALVANIZED COATING**

- Hot-dip galvanized coatings can be applied in two different ways. The parts can be fed into a liquid zinc bath in a continuous roller process where the coating characteristics are highly dependent on the speed of the steel through the liquid zinc bath. The two most common steel products that are hot-dip galvanized using the continuous process is sheet and wire. The objective of the continuous process is to deposit a zinc coating that is smooth, thin and composed of nearly all zinc bath metal with very little zinc-iron inter-metallic. The coating can be alloyed to form a dull gray inter-metallic coating which has a good surface profile and can be easily painted.
- The second type of hot-dip galvanizing process is often called the “batch” process since individual steel pieces or assemblies are dipped in a molten zinc bath as individuals or as groups. The coating is formed by the inter-diffusion of zinc and iron. The coating forms four distinct layers or inter-metallic as follows:
  1. The first layer is called the gamma layer and has 75 % zinc and 25% iron.
  2. The next layer is called the delta layer and has 90% zinc and 10% iron.
  3. The third layer is called the zeta layer and has 94% zinc and 6% iron.
  4. The final layer is called the eta layer and has 100% zinc and no iron.
- During the batch hot-dip galvanizing process, a number of process variables can affect the coating thickness. The primary determiner of coating thickness is the steel chemistry, with the most influential elements.
- These two elements promote the inter-diffusion of zinc and iron and cause the hot-dip galvanized coating to become thick and filled with inter-metallic.
- Fig. 2 shows the coating rate of two different steels versus the time spent in the molten zinc bath. The normal steel curve shows the galvanizing reaction is self-limiting and will cease to increase the coating weight when the diffusion of zinc and

iron becomes a very slow process. Whereas with the reactive silicon steel, the reaction continues to add coating weight to the part as long as the steel is in the galvanizing bath. The reactivity of the steel is determined by the amount of silicon and phosphorous in the steel.

- The coating produced when the steel is reactive contains mainly inter-metallic of iron and zinc. This means that the surface will not be bright and shiny, but rather dull gray and slightly rough. This inter-metallic surface makes a very good anchor for paint systems.
- Fig. 2 - Coating Weight of Hot-Dip Galvanized Coating VS. Galvanizing Time for Two Different Steels.

Fig. 2 - Coating Weight of Hot-Dip Galvanized Coating VS. Galvanizing Time for Two Different Steels



The main concern with reactive steel galvanized coatings is the thickness of the coating. If the coating is too thick it may become brittle and will be susceptible to applied stresses that may separate the galvanized coating from the steel underneath. Knowing the silicon and phosphorous content is very important to producing a quality galvanized coating.

### GALVANIZED COATING SURFACE

- Many galvanizers apply post treatments to their galvanized coating to prevent the formation of wet storage stain. Additionally, the galvanized part is sometimes quenched in a water bath to accelerate cooling. These treatments and quenching are to be avoided if the galvanized part is to be painted. The post treatments will change the surface chemistry of the coating. While some of these treatments, such as phosphate, produce better surfaces for painting, others, such as chromating, will produce a surface that is difficult to paint.
- Consult with the galvanizer and paint company before applying a post treatment to galvanized steel that is to be painted. Water quenching in itself is not harmful to the surface but the quench bath often has small amounts of oil, grease or flux on the

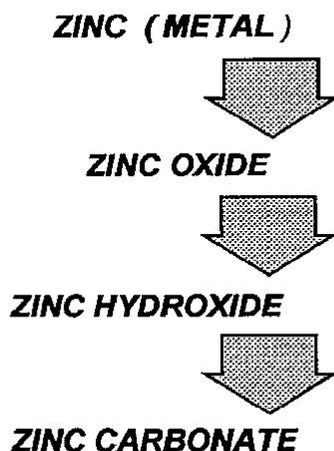
surface which could interfere with paint adhesion.

- A hot-dip galvanized coating of zinc protects the steel by providing both a barrier to atmospheric elements and cathodic protection to the steel. The corrosion protection of the zinc originates from the dense, insoluble corrosion product layer that forms over time on the zinc surface.
- Newly galvanized steel is bright and shiny, and is pure zinc on the surface. This surface is fairly smooth, so during the first 24 to 48 hours after galvanizing only a slight roughening of the surface is needed to prepare the galvanized coating to be painted.
- The natural corrosion cycle of the zinc coating is shown in Fig. 3. The conversion of the zinc metal on the surface to zinc oxide occurs within the first 12 months of exposure to the environment. The conversion of zinc oxide to zinc hydroxide occurs soon after the zinc oxide is formed and depends on the amount of available water in the air, or as a result of dew or condensation. The corrosion products, zinc oxide and zinc hydroxide, are water soluble so they are often washed off the zinc surface in the presence of rain or condensation.
  - Fig. 3 - Corrosion Cycle of Zinc Surface IDE metal underneath.

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Fig. 3 - Corrosion Cycle of Zinc Surface

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- The final step in the corrosion cycle is the conversion of zinc hydroxide and zinc oxide to zinc carbonate. This happens in the presence of freely flowing air across the exposed surface. The carbon dioxide from the air reacts with the zinc oxides. This corrosion product, zinc carbonate, is insoluble in water and forms a very dense layer on the surface of the coating. This layer will erode slowly in time but it mainly provides a barrier for the zinc.
- The corrosion rate of the overall system depends on the rate of zinc carbonate erosion or dissolution. Very basic or very acidic solutions can dissolve this layer extremely rapidly. The corrosion rate changes most rapidly in the low pH atmosphere because acidic solutions quickly dissolve the zinc carbonate layer. This

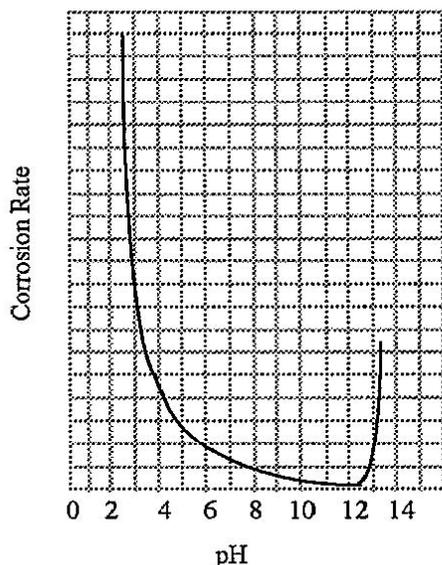
is seen in the corrosion rate chart of Fig. 4. A high pH atmosphere can also shorten the life of the zinc coating.

- Fig. 4 - Corrosion Rate of Zinc versus pH of Atmosphere that have been exposed to the atmosphere for more than one year are completely covered with the zinc carbonate layer.

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Fig. 4 - Corrosion Rate of Zinc versus pH of Atmosphere

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- The zinc carbonate layer is a very dense and slightly rough layer. Paint adhesion to this layer is extremely good with little or no surface preparation.
- The two conditions of galvanized steel that need little or no surface preparation are the newly galvanized part that is less than 24 to 48 hours removed from the zinc bath and the weathered galvanized steel part that has been exposed to the atmosphere for more than one year.
- The galvanized articles that do not meet these two conditions need surface preparation to remove the zinc oxide and zinc hydroxide from the coating.
- Unfortunately most galvanized steel articles fall into this last category, as few galvanizing facilities have painting capability in their galvanizing plant. As a result, the parts are galvanized and then shipped to a paint shop or to the field and painted some days after they have been galvanized.

### **GALVANIZED STEEL SURFACE PREPARATION**

- Successful surface preparation is the key to producing adherent paint coatings and realizing the benefits of a duplex system.
- A galvanized pole will have peeling paint as a result of poor surface preparation.

- The surface contains zinc oxides and zinc hydroxides when the paint is applied. The coating appears to adhere to the surface, but after two to three years in service, the zinc oxide begins to separate from the underneath zinc metal. As paint is adhering to the zinc oxide, it separates from the pole surface at that time.

### **Surface Cleaning**

- When cleaning a galvanized surface prior to painting, the goal is to remove any dirt, grease or oils. At the same time, care must be taken not to remove too much of the galvanized coating.
- Alkaline cleaning, ammonia cleaning and solvent cleaning are the most common ways of removing dirt from a galvanized surface. As some cleaners may react differently with different paint systems, the paint manufacturer should be consulted for specific reaction problems.
- Oil, grease and dirt can be removed by using an alkaline solution in the pH range of 11 to 12, but not greater than 13 as this will damage the zinc coating. Most alkaline cleaning solutions are nominally 2 to 5 percent sodium compounds with small additions of emulsifying or chelating agents.
- The solution can be applied through dipping, spraying or brushing. If brushing is used, apply the solution with a soft bristle brush, preferably of nylon, definitely not copper or steel bristle brushes. If dipping or spraying the solution, the temperature range that works best is between 140 and 185 F.
- For newly galvanized steel, a water-based emulsifier can be used to remove contaminants. After cleaning, thoroughly rinse the surface with hot water and allow drying.
- Mineral spirits, turpentine, high flash naphtha, and other typical cleaning solvents can be used to clean galvanized surfaces provided they are applied with lint-free rags or soft bristle brushes. The rags and brushes must be changed often to prevent reapplying the contaminants.
- After cleaning, rinse thoroughly with hot water and allow to dry completely. A solution of 1 to 2 percent ammonia applied with a soft bristle brush can also be used to clean galvanized surfaces, although this method is typically reserved for cleaning parts with zinc ash residue.
- As a piece of steel is removed from the galvanizing kettle, it may pick up particles of oxidized zinc from the bath surface, otherwise known as zinc ash. Ash residue must be removed prior to painting. After cleaning, thoroughly rinse the surface with hot water and allow drying completely.
- A solution of 1 to 2 percent ammonia applied with a soft bristle brush can also be used to clean galvanized surfaces, although this method is typically reserved for cleaning parts with zinc ash residue.
- As a piece of steel is removed from the galvanizing kettle, it may pick up particles of

oxidized zinc from the bath surface, otherwise known as zinc ash. Ash residue must be removed prior to painting. After cleaning, thoroughly rinse the surface with hot water and allow drying completely.

### **Surface Profiling**

- In order to provide a good adhesion profile for the paint, the galvanized surface must be flat with no protrusions and slightly roughened to provide an anchor profile.
- During the removal of the galvanized article from the zinc bath, the excess zinc runs down the edges of the part and can sometimes build-up at a protrusion or irregular edge. The zinc can also form tears at the edge where it drains off the part. These high spots and tears must be removed before painting as they will be very difficult to coat.
- The high spots and tears are usually ground off with hand tools or power grinders. Care must be taken when performing this operation to insure that the galvanized coating is not removed below the specified thickness.
- In order to roughen the typically smooth galvanized surface after cleaning, an abrasive sweep or brush blast may be used. Care should be taken to prevent removing too much of the zinc coating.
- Particle size for a sweep blast of galvanized steel should range between 200 and 500 microns. Aluminum/magnesium silicate has been used successfully in the sweep blasting of galvanized steel. Organic media such as corn cobs and walnut shells or minerals such as corundum, limestone and sands with a Mohs hardness of five or less may also be used.
- The temperature of the galvanized part when blasting can have a significant affect on the finished surface profile. Sweep blasting while the galvanized part is still warm from the galvanizing process, 175 to 390 F, provides an excellent profile for painting.
- Ambient conditions for sweep blasting are recommended to be less than 50 percent relative humidity and a minimum temperature of 70 F.
- The process of sweep blasting should not be confused with the near white blasting that is used to clean uncoated steel before applying paint systems. This near white blasting will remove the galvanized coating and negate the corrosion protection afforded by the zinc.
- The process of sweep blasting is best performed by an experienced applicator. If the sweep angle becomes near perpendicular to the galvanized part, the blasting can quickly remove the protective zinc rather than the zinc oxide particle on the surface of the coating.

### **Penetrating Sealers**

- Two-part epoxy penetrating sealers are sometimes used to form a 50 micron thick coating on the galvanized surface after cleaning. These products can be particularly effective as surface treatment methods on surfaces that have had zinc oxide and zinc hydroxide removed during the cleaning process.
- Follow the manufacturer's directions for application and always use a topcoat over the penetrating sealer.

### **Zinc Phosphate Treatment**

- Zinc phosphate is a conversion coating that passivates the zinc surface and blocks the formation of zinc oxides.
- The phosphate treatment can be applied by immersion, spray or soft bristle brush.
- The phosphate should be left on the galvanizing surface between 3 and 6 minutes. The piece should then be washed with clean water and allowed to completely dry.
- This type of treatment is appropriate for most types of paints but does not perform well with zinc-rich paints.

### **Wash Primers**

- This treatment uses a metal conditioner to neutralize surface oxides and hydroxides, as well as etch the galvanized surface. Wash primers should be applied to the galvanized surface to form a protective layer 7 to 13 microns thick. If the thickness exceeds 13 microns, paint adhesion can become a problem. The critical thickness layer dictates that this process is done in shop conditions. Field application of this treatment results in thick and irregular protective layers.
- When using wash primers follow the manufacturer's directions for maximum performance.

### **Acrylic Passivation**

- This treatment uses an acidic acrylic solution to passivity the galvanized surface, as well as to roughen the smooth zinc coating.
- Acrylic passivation should be applied approximately one micron thick to a clean galvanized surface.

- The passivation layer should be dried completely before applying paint to the surface.

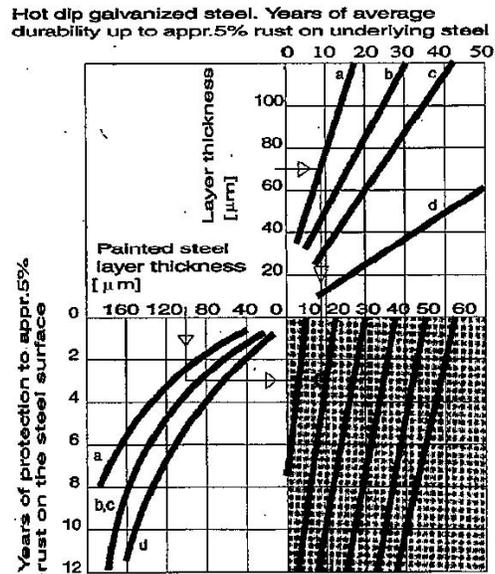
### **PAIN T SELECTION**

- The proper selection of a paint system for a certain engineering need is the province of the architect and the engineer.
- There are many options depending on the intended use of the duplex coated part, the application method and place for the paint system, environmental concerns, and aesthetics of the total system.
- Many paint companies offer good paint systems that are designed to work with galvanized steel.
- Consult your paint manufacturer for the proper paint selection.

### **DUPLEX SYSTEM PERFORMANCE**

- When hot-dip galvanized steel is painted, the duplex system provides a more sophisticated manner of corrosion protection.
- The galvanized coating protects the base steel by providing both cathodic and barrier protection.
- The paint coating acts as a barrier protection for the hot-dip galvanized coating and significantly reduces the corrosion rate of the zinc.
- The overall affect on the base steel is that the duplex system not only provides hot-dip galvanized life plus the paint life but also provides a multiplication factor of 1.5 to 2.3 on the sum of these two lifetimes.
  - Fig. 7 – Duplex Systems Lifetimes

Fig. 7 – Duplex Systems Lifetimes (1)



- The combined effect of the two corrosion protection systems is shown in Fig. 7. The graph in the top right section shows the lifetime of galvanized coatings in four types of atmospheres:
  - a: industrial atmosphere
  - b: urban atmosphere
  - c: marine atmosphere
  - d: rural atmosphere
- The number of years for the coating is shown across the top and the coating thickness is shown along the side.
- The lifetime of a typical paint system is shown in the lower left section of the figure. In this graph the number of years is shown along the side and the coating thickness is shown along the top.
- The third graph in this figure is the actual lifetime of duplex systems with the number of years shown along the top.
- An example is plotted for a galvanized coating of 70 microns which has a lifetime of 9 years in an industrial atmosphere along with a paint coating of 100 microns which has a lifetime of 3 years in an industrial atmosphere.
- The combined lifetime should then be 12 years but the actual lifetime of this duplex system is 18 years.
- The increased lifetime that can be provided with a combination of paint over galvanized steel makes this type of corrosion protection system very attractive for structures designed to last a long time in aggressive atmospheres.

- If periodic maintenance is an option, the repainting of galvanized steel can provide virtually unlimited lifetimes for a structure.

### **SUMMARY**

- The painting of galvanized steel has been a difficult task for many people.
- The secret of good painting on galvanized steel is the surface preparation of the galvanized surface. If the surface is newly galvanized, that is less than 48 hours out of the zinc kettle; the surface can be painted after a surface roughening procedure.
- If the surface of the galvanized part has been exposed to the environment for more than one year then the surface can be painted after the dirt, grease and oils have been removed.
- The most difficult time to paint galvanized steel is between one day and one year after it has been galvanized. Following the correct surface preparation procedures can give a satisfactory duplex system.

#### **4. PRICING SHEETS**

Please includes all material, equipment and labor in the cost to complete the project (please see special instruction).

<b><u>Line</u></b>	<b><u>Description</u></b>	<b><u>Price</u></b>
1.	Stripping and dusting any dirt, grease, oils, or zinc ash from galvanize plates from (approximately 150 plates) Vendor to verify the number of plates	\$ _____
2.	Priming galvanized plates bolts and ankles	\$ _____
3.	Two coats of finish on plates and bolts and ankles	\$ _____
4.	Equipment (itemize on separate sheet)	\$ _____
5.	Miscellaneous (itemize on separate sheet)	\$ _____

#### **5. SPECIAL CONDITIONS/INSTRUCTIONS**

- In order to properly prepare the plates, removing them from the wall will be the most successful. This will be done in 6 rounds to minimize the 'unloading' of the wall in its entirety.
- A lift will remain on site during the process to facilitate the process.

- The cleaning and painting process shall occur off site, then the plates will be returned and another group removed for cleaning and painting.
- A paint chart shall can be provided to the County determine color. The colors choose shall be available at the same unit cost.
- Please note, the threaded rods and nuts may not accept paint as readily as the plate as these parts will be worn during the installation process. Thus, the paint applied to the rods and nuts shall meet the same standards as the paint applied to the plates.

## 6. INSURANCE & RISK MANAGEMENT PROVISIONS

### Insurance and Risk Management Provisions General (NOC)

It is Fulton County Government's practice to obtain Certificates of Insurance from our Contractors and Vendors. Insurance must be written by a licensed agent in a company licensed to write insurance in the State of Georgia. Respondents shall submit with the bid/proposal evidence of insurability satisfactory to Fulton County Government as to form and content. Either of the following forms of evidence is acceptable:

- A letter from an insurance carrier stating that upon your firm/company being the successful Bidder/Respondent that a Certificate of Insurance shall be issued in compliance with the Insurance and Risk Management Provisions outlined below.
- A Certificate of Insurance complying with the Insurance and Risk Management Provisions outlined below (Request for Bid/Proposal number and Project Name and Description must appear on the Certificate of Insurance).
- A combination of specific policies written with an umbrella policy covering liabilities in excess of the required limits is acceptable to achieve the applicable insurance coverage levels.

Upon award, the Contractor/Vendor must maintain at their expense, insurance with policy limits equal to or greater than the limits described below. Any and all Insurance Coverage(s) and Bonds required under the terms and conditions of the contract shall be maintained during the entire length of the contract, including any extensions or renewals thereto, and until all work has been completed to the satisfaction of Fulton County Government.

Accordingly the Respondent shall provide a certificate evidencing the following:

#### 1. WORKERS COMPENSATION/EMPLOYER'S LIABILITY INSURANCE – STATUTORY (In compliance with the Georgia Workers Compensation Acts and any other State or Federal Acts or Provisions in which jurisdiction may be granted)

Employer's Liability Insurance	BY ACCIDENT - EACH ACCIDENT	\$1,000,000.
Employer's Liability Insurance	BY DISEASE - POLICY LIMIT	\$1,000,000.
(Aggregate)	BY DISEASE - EACH EMPLOYEE	\$1,000,000.

#### 2. COMMERCIAL GENERAL LIABILITY INSURANCE (Including contractual Liability Insurance)

Bodily Injury and Property Damage Liability	Each Occurrence	-	\$1,000,000
(Other than Products/Completed Operations)	General Aggregate	-	\$2,000,000

\*\*To include Designated Per Project/Location Endorsement #CG2503/CG2504\*\*

Products\Completed Operation	Aggregate Limit	-	\$1,000,000
Personal and Advertising Injury	Limits	-	\$1,000,000
Fire Damage	Limits	-	\$100,000

#### 3. BUSINESS AUTOMOBILE LIABILITY INSURANCE

<b>Combined Single Limits</b>	Each Occurrence	-	\$1,000,000
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(Including operation of non-owned, owned, and hired automobiles)

4. **UMBRELLA LIABILITY**  
(In excess of Auto, GL and Employers Liability) Each Occurrence - \$2,000,000
5. **FIDELITY BOND and CRIME**  
(Employee Dishonesty - Theft) Each Occurrence - \$100,000  
\*\*Above to include 3<sup>rd</sup> Party Coverage\*\*

**Certificates of Insurance**

Certificates shall state that the policy or policies shall not expire, be cancelled or altered without at least sixty (60) days prior written notice to Fulton County Government. Policies and Certificates of Insurance are to list Fulton County Government as an Additional Insured (except for Workers' Compensation) and shall conform to all terms and conditions (including coverage of the indemnification and hold harmless agreement) contained in the Insurance and Risk Management Provisions. The General Liability Additional Insured language should apply to on-going and completed-operations, using ISO form CG 2010 (11/85 version) or equivalent.

The Contractor agrees to name the Owner and all other parties required of the Contractor/Vendor shall be included as insureds on the CGL, using ISO Additional Insured Endorsement forms CG 2010 11/85 or its equivalent coverage to the additional insureds. This insurance for the additional insureds shall be as broad as the coverage provided for the named insured Subcontractor. It shall apply as Primary Insurance before any other insurance or self-insurance, including any deductible, non-contributory, and Waiver of Subrogation provided to the Additional Insureds.

Additional Insured under the General Liability, Auto Liability, Umbrella Policies (with exception of Workers Compensation and Professional Liability), with no Cross Suits exclusion.

If Fulton County Government shall so request, the Respondent, Contractor or Vendor will furnish the County for its inspection and approval such policies of insurance with all endorsements, or confirmed specimens thereof certified by the insurance company to be true and correct copies.

Such certificates should be sent to Fulton County Government and must identify the "Certificate Holder" as follows:

Fulton County Government – Department of Purchasing & Contract Compliance  
130 Peachtree Street, S.W.  
Suite 1168  
Atlanta, Georgia 30303-3459

It is understood that **Insurance in no way limits the Liability of the Contractor/Vendor.**

**USE OF PREMISES**

**Contractor shall confine its apparatus, the storage of materials and the operations of its workers to limits/requirements indicated by law, ordinance, permits and any restrictions of Fulton County Government and shall not unreasonably encumber the premises with its materials.**

### PROTECTION OF PROPERTY

Contractor will adequately protect its own work from damage, will protect Fulton County Government's property from damage or loss and will take all necessary precautions during the progress of the work to protect all persons and the property of others from damage or loss.

Contractor shall take all necessary precautions for the safety of employees of the work and shall comply with all applicable provisions of the Federal, State and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where work is being performed.

Contractor shall erect and properly maintain at all times as required by the conditions and progress of the work, all necessary safeguards for the protection of its employees, Fulton County Government employees and the public and shall post all applicable signage and other warning devices to protect against potential hazards for the work being performed.

### INDEMNIFICATION AND HOLD HARMLESS AGREEMENT

Contractor/Vendor hereby agrees to release, indemnify, defend and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents, from and against any and all losses (including death), claims, damages, liabilities, costs and expenses (including but not limited to all actions, proceedings, or investigations in respect thereof and any costs of judgments, settlements, court costs, attorney's fees or expenses, regardless of the outcome of any such action, proceeding, or investigation), caused by, relating to, based upon or arising out of any act or omission by Contractor/Vendor, its directors, officers, employees, subcontractors, successors, assigns or agents, or otherwise in connection (directly or indirectly) with its acceptance, or the performance, or nonperformance, of its obligations under these agreements. Such obligations shall not be construed to negate, abridge or otherwise reduce any other rights or obligations of indemnity which would otherwise exist as to any party or person as set forth in this paragraph.

Contractor/Vendor's obligation to protect, defend, indemnify and hold harmless, as set forth hereinabove, shall also include, but is not limited to, any matter arising out of any actual or alleged infringement of any patent, trademark, copyright, or service mark, or other actual or alleged unfair competition disparagement of product or service, or other tort or any type whatsoever, or any actual or alleged violation of trade regulations.

Contractor/Vendor further agrees to protect, defend, indemnify and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents from and against any and all claims or liability for compensation under the Worker's Compensation Act, Disability Benefits Act, or any other employee benefits act arising out of injuries sustained by any employees of Contractor/Vendor. These indemnities shall not be limited by reason of the listing of any insurance coverage.

*If the bid/quotation involves construction services Contractor/Vendor will be responsible fully for any and all damage to the work during the course of construction, until the point of Final acceptance by Fulton County.*

FULTON COUNTY ACKNOWLEDGES THAT ALL PROVISIONS OF THIS INDEMNITY AGREEMENT MAY NOT BE APPLICABLE TO THE CONTRACTOR/VENDOR'S BUSINESS. TO THE EXTENT THAT CONTRACTOR/VENDOR MAY DEMONSTRATE SUCH NONAPPLICABILITY, FULTON COUNTY MAY NEGOTIATE AMENDMENTS TO THIS AGREEMENT AS THE CIRCUMSTANCES DICTATE.

CONTRACTOR/VENDOR ACKNOWLEDGES HAVING READ, UNDERSTANDING, AND AGREEING TO COMPLY WITH THIS INDEMNIFICATION AND HOLD HARMLESS AGREEMENT, AND THE REPRESENTATIVE OF THE CONTRACTOR/VENDOR IDENTIFIED BELOW IS AUTHORIZED TO SIGN CONTRACTS ON BEHALF OF THE RESPONDING CONTRACTOR/VENDOR.