Cindy Rodiguez, CPE
Arizona - 6
CRodriguez@pivot-solutions.com

HTETCO Painting New Gypsum Board Wall

TABLE OF CONTENTS

Section 1: Introduction
Section 2: Types and Methods of Measurements
Section 3: Specific Factors to Consider
Section 4: Overview of Costs & Mark-ups
Section 5: Special Risk Considerations
Section 6: Ratios and Analysis
Section 7: Miscellaneous
Section 8: Sample Plans and Take-off
Section 9: Sample Budget Estimate

Thank You to our Partners!

Corporate Members
Bluebook * ConsensusDocs * DCD Magazine * On Center Software

American Society of Professional Estimators • ASPEnational.org
SECTION 1: INTRODUCTION

The purpose of the following technical paper is to provide general information on how to estimate the cost of painting newly textured gypsum board wall. There are several components that can be part of painting such as chemical components and desired aesthetics. However, this paper will only focus on the application of primer and top coat to a new interior gypsum board area. This paper will be presented from the view of a painting subcontractor.

Brief Description of Subject Matter

Gypsum board is one of the most common and affordable substrates found in American buildings and homes, thus the importance of understanding how to calculate costs associated with estimating this type of system.

It is commonly thought that paint is easy and that the main purpose for paint is to add color to walls and ceilings, however, paint is so much more. Paint seals surfaces to resist wear and tear and helps to protect from moisture. Additionally, paint assists in keeping dirt and dust to a minimum, helps to hide stains and permanent marks, and adds value to property. Knowing chemical components and proper use of your products is just as important as ensuring that the proper color is on the correct location.

SECTION 2: TYPES & METHODS OF MEASUREMENT

The most appropriate takeoff measurement is by square feet (SF) of surface area. Surface area is all the area that you can see in two dimensions (length and width). In other words, the surface area of a wall is the area that you can paint, which is acquired by measuring linear feet of a wall multiplied by known wall height. The most appropriate way to measure interior walls is by using the floor plans and referencing interior and/or exterior elevations or reflective ceiling plans. You must keep in mind that interior and exterior elevations do not accurately reflect depth, curves, niches, alcoves, or 3D shapes that could potentially result in loss of square footage and should avoid measuring surface area from them, therefore, best way of measuring wall length is using floor plan, which helps to identify clear wall path (reference Exhibit A). Suppose painting new gypsum board walls along the rear side of a residence due to remodel addition. Floor plan linear takeoff total is 110.5 linear feet, then multiply by wall height found on Reflective Ceiling Plan or on Interior/Exterior Elevations; in this case is 10 linear feet high. Therefore, total wall surface area of rear side of residence equals 1,105 square feet.

Exhibit A
Completing a takeoff solely based on exterior elevation would result inaccurate calculation of 715.5 SF.

In this example measuring the wall surface area is 1,105 square feet while measuring solely from elevation totaled 715.5 square feet, resulting in a difference of 389.5 square feet.

As proven, the best way to avoid under or over calculating surface area is to use floor plan and reference interior and/or exterior elevations. A contributing part of accurate takeoff is to identify the wall type. Wall partition plan, building sections, floor plan details will help to identify wall surface as painted, unfinished, or other. Identifying wall types will ensure that proper products are proposed to protect and seal the surface area. Inaccurate identification of wall types of measuring of wrong plan sheets could result in over or under cost calculation. Using estimating softwares can help with speed, accuracy, and data recording. There are many different tools available to estimators to help with data recording and data calculation. Softwares with ability to calculate labor, material and equipment are preferred.

**SECTION 3: SPECIFIC FACTORS AFFECTING TAKE OFF AND PRICING**

Specifications and Construction Documents

Once a scope of work has been determined then it is appropriate to determine what products have been selected in the project specification – division 09 – subdivision 09 90 00. The specifications will dictate the type of coating required for each surface and location. It is not
uncommon for gypsum board walls to have different coatings according to location. Many times walls vary on sheen or color, other times products with harsher chemicals are required even though they are in the same general area. For example, it may be preferred that all walls be painted with a Flat finish except bathrooms which require a SemiGloss finish to help with moisture protection. Sheen information can be identified by architect in project paint specifications and/or project finish schedule or as selected by interior designer in the Interior Design (ID) package. If such information is not provided due to project stage then paint subcontractor might be able to make a recommendation or send a Request For Information (RFI) to the customer to decide which should be used.

Master Painters Institute (MPI) is commonly specified on project specifications. The Master Painters Institute has created standards for paint application and quality. These standards ensure excellence through painting inspection, performance-based standards and lab testing.

Once project specific products have been identified, verify product information in manufacturer Technical Data Sheet. Manufacturer Technical Data Sheet (TDS) will provide information such as compatible products, coverage, and technical application. The information provided is to be used as a tool and not as an absolute for calculation since it is provided according to laboratory testing in perfectly controlled space. Real world application is not as black and white, therefore, this information should be measured by your company’s actual field application results.

Another area for consideration is gypsum board finish level. Level 3 or textured finish is most common however levels 4 and 5 which are smooth drywall finish level will have a bigger cost impact on labor since higher skilled labor are required. Cross referencing project specification – division 09 – subdivision 09 29 00 Gypsum Board will aid in identifying the finish level. Labor cost could have an incremental difference of 50% between textured and smooth drywall finish.

Location and Room Usage
By nature, the higher the gloss level in paint products the easier it is to wipe or clean the surface. It is proven that paints that are Flat or Matte are considered “non-washable”, meaning that applying a new coat of paint is the only way to get rid of stains. The higher the sheen the more “washable”, meaning stains could be cleaned with soap and water. Additionally, the higher gloss repels water more easily. Many times it is preferred to use an Eggshell or SemiGloss finish in bathrooms, kitchens, and laundries to assist with combating moisture. Higher traffic areas or low traffic areas can also call out for specific products to assist with maintenance or cost efficiency. Even though paint quality or manufacture aid in material price, sheen also plays a huge role. The higher the sheen the higher the cost. On average, if considering the same brand and same product family, cost would be 5-7% higher from Flat to Eggshell and another 5-10% from Eggshell to SemiGloss. Improper identification of required gloss level could result in over or under material cost calculation.

Wage Rate Requirements
Prevailing wage required projects will have a direct impact of labor costs. Prevailing wages are defined by the Department of Labor for each trade and occupation employed in the performance of projects. It is imperative to verify wage rates according to location and project type.

Project Conditions
The type of project will make a huge difference in efficiency. There could be a productivity decline when painting remodeled walls involving combination of existing and new gypsum board vs new construction where all walls are new gypsum board due to stop-and-go nature of work. Efficiency and production rates are also impacted by site access. Single story residence with new gypsum board walls is going to be easier to access than apartment on 17th floor of high rise building. Accounting for elevator wait time, parking, material delivery restrictions, as well as overall project admission and hours is a must as this could result in over or under cost calculation. Overall project duration may impact labor price if the project requires a full time superintendent at the jobsite at all times or if a working foreman will suffice.

SECTION 4: OVERVIEW OF COSTS + MARK-UPS

Labor costs can be calculated per man hour, square foot or contract work. Large areas or high volume surface areas are typically costed per square foot. Smaller areas or lower surface areas are more commonly costed by man hour or costed by piece price/contract work. Larger areas will use square foot since production efficiencies are more easily applied. The calculation method will be determined by project type and estimators preferred method to analyze data. Labor burden should be added to the cost of labor. Applying a percentage to the overall labor cost can cover the direct “burdened” cost of having employees.
Material

You will need to know what the coverage rate is for every product required. As discussed earlier, this information can be found on manufacturer Technical Data Sheets (TDS). Calculating the cost of paint material can be done by finding out how many gallons of paint you need multiplied by the price per gallon. Contacting your local paint manufactures or suppliers for project specific quote will guarantee the best possible price per gallon. Many times it is possible to get wholesale pricing and/or qualify for rebates and discounts. While paint is the bulk of material pricing, there are other items that painters need such as tape, paper, plastic, caulking, etc. These additional materials are items that will be used during a project known as “sundry or consumable” items. Tape assists in making straight lines, covering unwanted items from receiving paint, and reducing actual time spent painting. Caulking is primarily used to seal dry joints or to provide a weather tight seal between two dissimilar surfaces, for example the joint or space that exists between a wall and wood baseboard needs to be sealed and caulking is the perfect sundry for the task. Ensuring that you have enough money for these items is invaluable. Applying a percentage to the overall paint material cost can cover these consumable items.

Equipment

Required equipment will vary from project to project. Large equipment such as boom lifts or scaffolds can be rented on daily, weekly or monthly basis. Contacting local equipment rental companies will allow you to properly account for cost of larger equipment. Smaller equipment such as sprayers, rollers, extension poles should be accounted for as well. Applying a percentage to the overall cost of the project can cover the cost of small tools.

Indirect Cost

Costs of doing and operating a business but not directly associated with a particular project are known as indirect costs and can be either fixed or variable. Cost of having an office, staff, insurance, taxes, etc will vary from company to company. Applying a percentage to the overall direct cost of a project can cover a company’s indirect costs.

Mark-ups

After calculating direct labor, material, equipment costs and indirect cost; the amount or percentage that the company will profit for providing its painting services must be established. Applying a mark-up percentage to the overall project is very common. This percent can
vary based on multiple factors such as market conditions, competition, schedule, risk and overall desire to name a few.

SECTION 5: SPECIAL RISK CONSIDERATIONS

There is a fine line between not having enough details and having too many. As an estimator you will need to determine if you need to deduct windows from your wall surface calculation or if you just adjust your material coverage to account for non-painted areas. Spending too much time estimating one project or not spending enough time on a project is a balancing act. Another example of “too much or too little” would be when a project needs accent walls or walls demanding different color from your main color, you will have to determine if you are going to measure each accent wall surface area or if you are going to do a count of every wall making an assumption that it will cost the same amount to paint every accent wall. In this example it would be a decision between counting and costing each or measuring and costing by square foot.

SECTION 6: RATIOS & ANALYSIS

History always repeats itself, therefore, one of the best ways to ensure that estimates are completed accurately is to setup checks and balances. Paralleling current data with historical data is essential to successful estimates. Comparison of projects with similar or equal proportions helps to check that crucial calculations have not been missed. Analysis of previously completed data will enable you to acquire ratios for comparison. Allowing estimators to compare labor, material and equipment on a percentage based on estimated vs actual costs. For example, if historically costs for spraying interior paint reflect that 35% of total cost is material and that 65% is labor, an estimator may use that information to check his work. If an estimator finds that the calculation is significantly different after completing their takeoff then there’s definite reason to inspect owns work for possible calculating error, missed items, double entry of data, and so forth.

SECTION 7: MISCELLANEOUS PERTINENT INFORMATION

Whether the plans are sent through email or downloadable link it is imperative that all project files are considered. Read and examine all documents such as specifications and project instructions including General and Supplementary Conditions which contain information on working hours, weather days, and provisions on price increases. On the same note, the specifications may require certain items such as project hours and restrictions, for example a project that is to be completed during night as to not interrupt normal business hours. When this information is not included in the project costs, then it could reduce its profitability and/or labor pool. Additionally, when a project requires specific paint with zero or low volatile organic components (VOC) due to state or federal restrictions. If the estimator is unaware of such a provision and doesn’t account for extra costs, then it could reduce its profitability and/or material availability.
SECTION 8: SAMPLE PROJECT DRAWINGS

This section includes examples of floor plans, elevations, and details commonly used to estimate the cost of painting gypsum board wall.
HTETCO Painting New Gypsum Board Wall... continued
HTETCO Painting New Gypsum Board Wall... continued
SECTION 9: TAKEOFF AND PRICING SHEETS

Please note that the following take-off and sample estimate is not based on the plans included in Section 8. This sample takeoff was completed using PlanSwift estimating software. The project was new construction of commercial building that had new gypsum board walls of various heights. Calculation of labor was based on 2 labor tasks, paint and touchup. Paint task included priming and painting for a total of 35¢ per square foot while touchup task is calculated at 10¢ per square foot of wall surface area. Material is calculated based on wall surface are divided by material coverage per gallon then multiplied by the product cost per gallon.
After labor is calculated from the plan takeoff then labor burden is calculated by simple percentage calculation described in Section 4: Labor Overview. Likewise, after all material calculations have be made then a percentage is calculated based on overall material price to account for consumables cost as described in Section 4: Material Overview. Additionally, equipment and overhead costs have also been included in the entire costs for this project. Lastly markup has been added to total project cost to finalize estimate total.