

# Albi Clad FP

## **Fireproofing Application Manual & Field Guide**



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**ALBI CLAD FP**  
**FIREPROOFING APPLICATION MANUAL**  
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## **INTRODUCTION**

### **ALBI CLAD FP**

#### **Applicator Training**

Throughout the years, Albi has earned a fine reputation for our dependable, high quality fireproofing systems. Providing maximum protection with minimum thickness, Albi fireproofing has demonstrated a unique ability to withstand abuse, impact, vibration and adverse environmental conditions, while still continuing its outstanding performance record and aesthetic properties.

As an Albi applicator, you are critical to achieving the specified aesthetic effect, the long-term durability of the applied product, and ultimately the performance of the fireproofing should there be a fire. It is vital that you and everyone in your company apply the product in accordance with UL tests and in compliance with our instructions.

Albi Clad FP is a smooth, hard fireproofing for wood that will remain exposed in interior locations. Architects and building owners specify Albi Clad FP when they want a clean, attractive finish that maintains the contours of the structural lumber. Customer satisfaction for both your firm and Albi depends on a competent and careful application with a pleasing aesthetic finish.

This manual is designed to help you understand the Albi Clad FP product, our equipment guidelines and our application methods. The manual is provided as part of our factory training. In addition, it should be used by Albi approved contractors to make sure that all personnel who will be applying the product are fully trained in proper application methods.

## **ALBI CLAD FP PRODUCT DESCRIPTION**

### **Albi Clad FP**

**FORMULATION:** Albi Clad FP is a proprietary water based formulation consisting of acrylic-based resins, binders, and intumescent agents. It is factory formulated for maximum quality control, and is shipped in 55-gallon (US) drums or 5-gallon (US) pails. Albi Clad FP contains NO asbestos and it meets the fire test criteria of ASTM E84, ASTM E119 and UL 263. It does not require a topcoat for performance, though it may be painted with a compatible product if desired.

**APPLICATION:** Albi Clad FP is applied directly from the shipping containers using heavy-duty airless equipment. It requires no field additives. It is a thixotropic material with a very heavy initial viscosity. It must be thoroughly mechanically mixed in the field, which will transform the texture to smooth, creamy and sprayable. Albi Clad FP is available in both spray and trowel grades to suit the desired end use requirements.

**WATER-BASED:** This product is water-based and must be protected from freezing during transport, storage, and application. Observe standard professional practices for the application of water-based coatings. Provide adequate ventilation.

**PRIMERS:** Albi Clad FP is applied to a variety of different substrates including wood, sheetrock and tin ceilings. In most cases the substrate should be primed with a primer appropriate to both the substrate and compatible with Albi Clad FP. Please contact Albi for primer recommendations.

## **EQUIPMENT RECOMMENDATIONS**

### **Why Albi Recommends Specific Equipment**

Albi Clad FP is a heavy-bodied material that requires heavy-duty airless spray equipment for a smooth and efficient application. There are dozens of pumps, spray guns and tips on the market. Albi has extensively evaluated a number (but not all) of those pumps etc. and we have come up with a list of certain equipment that works very well. Some pumps definitely work better than others at moving this heavy material, and the correct spray gun and tip are essential for producing a good aesthetic finish.

With the right pump and the right tip an experienced applicator can apply as much 80 to 100 mil (or more) in one coat with multiple passes. By contrast, use of inappropriate equipment may limit your production severely and/or produce an unacceptable finish.

We urge you to obtain and use the equipment we recommend here. If you elect to use other equipment than that which we recommend, you may be inviting problems.

Furthermore, Albi can only give you the best technical support on the equipment with which we are thoroughly familiar.

## **AIRLESS SPRAY EQUIPMENT**

### **PUMPS**

These are the pumps recommended by Albi for application of Albi Clad FP. Any pumps used must be rated for a minimum material delivery of 1.25 gallons per minute.

#### **Brand / Model**

Speedflo-Titan Power Twin 5500 Gas or Electric Operated  
Graco – Gmax 5900 Gas Operated  
Graco – Gmax 7900 Gas Operated  
Graco – Gmax 10000 Gas Operated

### **HOSES**

Material lines for airless application must be rated at a minimum 3000 + psi working pressure with a 3/8” inside diameter. Hose length should not exceed 100 feet without consulting Albi Manufacturing.

### **SPRAY GUNS**

We recommend the following airless spray guns.

#### **Brand / Model**

Binks 1M Airless  
Graco Contractors Airless  
Titan SGX-20 Airless  
Wagner G-10N Airless

### **SPRAY TIPS**

We recommend a range of tip sizes from .419-.423 & .519-.523. You should always have a range of tip sizes at a job site since substrate sizes, hose length, vertical lift and job site conditions all impact spray patterns. It is recommended to use tips without a diffuser bar. (Note: We do not recommend using tips designated as .3--.)

#### **Brand / Model**

ASM Zip Tips  
Graco Airless Tips  
Titan Airless Tips

## **ADDITIONAL EQUIPMENT**

### **MIXING EQUIPMENT**

Mechanical mixing of Albi Clad FP is required to assure uniform blending and proper material viscosity. For best results use a simple ½ inch drive electric drill, with a paddle sized to mix either a 55 gal drum or a 5 gallon pail.

### **SPARE PARTS AND ACCESSORIES**

Have the following items on hand to limit possible down time expenses.

1. Long handled screwdrivers, wrenches, hose clamps, etc to allow for quick maintenance checks and repairs in the field.
2. Extra 50 foot section of material hose
3. Supply of empty 5-gallon pails to allow for cleaning of pump and material hose with water flushing
4. Spare parts kit as recommended by pump manufacturer
5. Spare material and air hose connectors, including swivel end connectors
6. Extra spray guns, spray tips, holders.

## **MISCELLANEOUS EQUIPMENT**

Have the following items available on the job:

1. Masking paper and tape as well as non-absorbent masking cloths to prevent or minimize overspray on finished surfaces or equipment.
2. Movable scaffolding as required.
3. Barrel or drum handling equipment. (A 55-gallon drum of Albi Clad FP weighs approximately 600 pounds.)
4. OSHA approved Safety Equipment.
5. Thickness measuring gauges to assure adequate wet and dry film thicknesses.
6. Supply of good quality foam paint rollers and tapered polyester brushes in 3” or 4” widths.
7. Trowel and protective gloves for patch up work and for trowelling or palming material into areas difficult to reach with spray application equipment.

## **SURFACE PREPARATION**

The surface to receive Albi Clad FP must be properly prepared in accordance with good painting practice. The surface must be clean of all residual oil, moisture, dust, frost or other contaminants that may have formed.

### **PRIMERS**

To provide proper protection and adhesion, all substrates should be primed with a proven compatible primer.

Before commencing work, it is vitally important to determine the compatibility of Albi Clad FP with the primer. Please contact Albi for further details

## **PREPARING TO APPLY ALBI CLAD FP**

### **Mixing the Material**

Albi Clad FP is a single-component, factory-formulated product that requires no additives. However, it must be mixed thoroughly with mechanical equipment to a smooth creamy consistency.

When the material is shipped, it has a thick consistency. It is generally uniform, not separated, and may appear ready to apply. It is NOT ready. Albi Clad FP is a thixotropic material that undergoes a transformation when vigorously mixed. With mechanical mixing the material becomes smooth, flowable, and ready to spray. Once mixed however, Albi Clad does not require continuous mixing during the spray application. It is recommended to remix the material at the start of each day just prior to spraying.

### **Important: Mix the Albi Clad FP to a Smooth, Creamy Consistency**

### **Airless Equipment Safety Warning – Injection Hazards**

Airless Equipment should ONLY be used by trained and experienced personnel. All persons working with, or around airless equipment, must be aware of injection hazards.

## **AIRLESS SPRAY APPLICATION**

### **Setting Up**

Connect the material line to gun. Adjust the pump pressure to the recommended range and choose an airless tip size, between .417 to .423 and .519 to .523. Increase or decrease pump pressure to achieve an even spray pattern. It is always best to spray at the lowest achievable pressure. If spray tip is constantly clogging, either raise the pump pressure in five-pound increments, or change to the next larger size tip. Tip extensions with swivel ends can be used to reach inaccessible areas.

### **Beginning to Spray**

Make sure the Albi Clad FP is mixed to a smooth, creamy consistency just prior to starting the spray application. Hold the spray gun a comfortable distance from the work. The trigger on the gun can be pulled continuously or intermittently to allow an even application of the material.

### **Building the Required Film Thickness**

The film thickness can be built up to 60 – 100 mils per coat. This is best achieved through multiple passes to produce an even application. Higher film builds per coat tend to impair the product finish. For the smoothest final appearance it is often best to limit each coat to about 60 mils. However, with experience, you may be able to lay down 80 to 100 mils in an acceptable finish.



Thickness applied during each pass depends on the skill of the applicator, weather conditions, and of course using the right equipment. Excess film builds can result in mud-cracking, sagging, or material runs. These can not be easily repaired, and if they are left untreated, they produce an unacceptable finished appearance.

As a general guide, wet film thicknesses can be built up in one day to 300 mils. This is best achieved in several coats of 60 – 100 mils each. Allow enough time between each coat to achieve skin drying. Do not exceed 300 mils total thickness in one day. Amounts in excess of 300 mils in a day will increase the hazard of material sagging. When application calls for Albi Clad FP thickness greater than 300 mils, allow the initial applied coats to dry overnight.

### **Equipment Operation Hints**

If the pump fails to operate correctly, check the following points:

1. Check material pressure gauge to make sure it is operable.
2. Check material level in Albi Clad drum to be sure sufficient material is covering the inlet material orifice and no cavitation is occurring.
3. Check material inlet for possible malfunction or clogs.
4. Make sure all personnel involved in the use of the equipment are familiar with its operation and understand the manufacturer's recommendations for trouble shooting.

## **SMALL JOBS or PATCH AREAS**

For very small jobs, not allowing or justifying the use of airless spray equipment, Albi Clad FP can be applied as follows:

1. Order trowel grade Albi Clad FP.
2. Apply by trowel or palming method. Wet trowel thoroughly with water and apply material. Do not work the Albi Clad FP too much, as it will tend to dislodge itself from the surface to which it is being applied.
3. To patch damaged area, first remove any loose particles. Then apply Albi Clad TF with sheetrock broad knife.

## **ALBI CLAD FP – FINISHED APPEARANCE**

Albi Clad FP serves both as a functional fireproofing material and the architectural finish. It can and should be applied to provide a neat acceptable finished appearance. Albi Clad FP should be applied in uniform thickness, free from globs, sags, and craters. Careless, sloppy workmanship always results in costly additional work and customer dissatisfaction.

The final appearance of the Albi Clad FP is directly dependent on the initial and subsequent spray coats. Build up the thickness slowly and uniformly through the use of successive passes. (Building up the thickness too rapidly causes mudcracks, sagging and sliding.) Allow each coat to skin dry before applying the next coat. Do not exceed 300 mil of wet film thickness in one day.

If errors in application have caused the material to glob, slide or sag, you should immediately remove that material and reapply the Albi Clad.

### **Smoothing the Surface**

Airless spray equipment, properly used, delivers the required finish appearance. You can smooth any surface irregularities and especially flange edges by lightly rolling with a foam roller or brush immediately after spraying. Keep the roller or brush wet to avoid pulling the applied material off the surface.

### **Measuring the Film Thickness**

This material will shrink between 15 to 25%, so the wet film thickness needs to be greater than the required dry film. (Although Albi Clad FP is 70% solids it doesn't shrink a full 30% because there are relatively large particles and glass flakes in it which create microscopic voids). It is important to continually check the wet film thickness during the application to ensure that sufficient but not excess material is being applied.

## **FINISHING UP**

### **Down Time and Clean Up**

When stopping work for a break, immerse the tip of the gun in water and cover the open drum to prevent the material from hardening. This permits quick resumption of work.

When stopping work overnight or longer, as well as when the job is completed, place the pump equipment in a container of water. Clean the exterior of the pump of residual Albi Clad material using an old brush or rag. Activate pump to cycle water, directing the material hose back into the water can. When the pump and material hose are thoroughly clean, cycle a water compatible solvent through the pump to help prevent rusting. Disconnect the material line and remove the gun for hand cleaning.

### **Watch for Waste**

Albi Clad FP is expensive material. Make sure to scrape the bottom of each drum to avoid unintentionally discarding hundreds of dollars of material.

### **Protecting the Albi Clad from Exterior Exposure**

During application and curing Albi Clad FP must be protected from direct weathering such as rain, freezing, snow, etc. Once fully cured, Albi Clad FP can withstand some exposure to exterior conditions such as intermittent light rain and snow, until the building is weather tight. However, it is important to remember that Albi Clad FP is an interior product and it should be protected from steady direct precipitation even after it is cured.

The need for weather protection depends on the climate and season at the job site. For example, if the job is in Los Angeles in the summer where the chance of rain is almost zero, you will have little need to protect the fireproofing from the weather. On the other hand, for most places the weather is much less predictable, so you will need to provide protection from the elements until the building is closed up.

## **WEATHER CONDITIONS**

Following are guidelines for cold, hot, and humid conditions. If you encounter these weather conditions in the middle of a job and need advice on how you might work through the situation or whether you might be able to exceed a specific guideline, please call our Albi Manufacturing. Our technical staff has experience and knowledge about the material, its limitations, and techniques that might work to help you continue an application.

### **Cold Weather Conditions**

Because Albi Clad FP is water based, freezing is a danger and low temperatures are problematic. Albi Clad FP cannot be applied below 40 °F. Be sure to follow these guidelines:

1. Albi Clad FP **MUST** be stored in a heated area at or above 50°F.
2. The substrate and ambient air must be at or above 50°F.

### **Hot Weather Conditions**

When applying Albi Clad FP in high temperatures, coats must be thick enough to allow the water in the material to remain on the substrate long enough to obtain proper adhesion. High temperatures accelerate water evaporation. Follow these guidelines:

1. The temperature of the substrate must not exceed 120°F.
2. Albi Clad FP should be stored indoors, out of direct sunlight at less than 120°F. If stored outdoors we recommend storing the drums in the open in shaded areas since the shipping containers can act like ovens.

### **Humid Application Conditions**

When applying Albi Clad FP in areas under high humidity conditions, it is important to note the following:

1. Surfaces must be free from all residual moisture. Albi Clad FP should not be applied whenever the substrate surface temperature is less than 5 degrees F above the dew point of the surrounding air.
2. Following good painting practice Albi Clad TF should not be applied when the relative humidity exceeds 85%.

## **AVOID THESE COMMON PROBLEMS**

### **Failure to Mix Material**

The Albi Clad FP looks uniform when shipped, but it is almost impossible to spray until it has been thoroughly mixed. Mechanical mixing will change the consistency from thick and putty-like to smooth, creamy and sprayable. Make sure it is mixed well.

### **Wrong Pump**

Many problems occur when applicators try to use a lightweight or untested pump to spray this heavy material. Often they find that they cannot hang over 10 mil per coat. They may compound the problem by switching to an oversize spray tip to increase production, resulting in an unacceptable appearance.

### **Wrong Spray Tip**

Tip Size impacts production rate, hangability and sprayability. When you go bigger to blow it on you will not achieve an attractive finish. If it is not going through recommended tip size, check again to see that the material is fully mixed.

### **Applying Too Little In One Coat**

If you are using the right pump, spray tip and well mixed material, you really can spray 60-100 mils per coat. Some applicators who are just starting with Albi Clad FP are not confident about putting this much material on at first. Just remember to use proper spray technique and build with multiple passes.

### **Trying to Spray Too Much in One Coat**

Although Albi Clad FP is a heavy material which can be built up fairly quickly, there are limits. If you try to load on too much material at once, it can slide off the surface, or it can go on leaving lumpy craters.

### **Untrained, Unskilled Applicators**

Make sure that the people actually spraying the Albi Clad FP are skilled industrial painters who have been specifically instructed in how to apply this particular product. This manual is designed to help an Albi approved applicator extend the training to his workers. In addition, Albi conducts frequent factory training.

## **TROUBLESHOOTING**

### **The Pump is Not Handling the Material Correctly.**

Check material pressure gauge to make sure it is operable. Check material level in Albi Clad Drum to be sure sufficient material is covering the inlet material orifice and no cavitation is occurring. Check material inlet for possible malfunction or clogs. Check the pump manufacturer's booklet to find further recommendations.

### **Material is Going on Too Slowly.**

"Help! I can't hang more than 10 mil at a time! This is taking forever!" This is probably due to using a light duty pump. It also may be that the Albi Clad FP was not sufficiently mixed before spraying.

### **Still Going Too Slowly—Taking Four or Five Coats**

Some applicators new to Albi may proceed too cautiously, spraying too little at once, and requiring too many coats. You may be thinking of more general paint or competitors' fireproofing which goes at 20 to 25 mil. You may not be confident putting on as much as you can in one coat. Trust us you can spray 60-100 mils per coat. Just remember to use proper spray technique and build with multiple passes.

### **The Surface Looks Like Craters of the Moon**

This is likely caused by using too large a tip. Return to the recommended tip sizes. Make sure the material is thoroughly mixed in order to flow through the right tip size.

### **The Material Keeps Sliding Off The Substrate**

You are probably spraying too much in one pass. Slow down. Temperature, humidity and airflow can affect the amount you can spray at one time. Adjust your production to the job's environmental conditions.

### **Repairing A Bad Surface**

If an area shows runs or sags overnight, it is best to let that material dry completely and remove the sags with a handheld surform. Then apply any subsequent coats.

If an area shows drips, runs or sags while you are working on it, the best method is to remove the wet material and start over. It is very difficult to improve the appearance of sagging wet material by further spraying, as the problem is caused by excess material in the first place.

## KEY POINTS WHEN TRAINING YOUR CREW

Albi Clad FP is not difficult to apply, however it does require following our guidelines to achieve an acceptable aesthetic finish. If you are factory trained by Albi, and now are preparing to instruct experienced industrial painters in how to apply this material, you will want to stress the following points:

**1. Use proper equipment.**

Be sure to use heavy duty airless spray equipment and the recommended tip sizes. (See page 4 – 6).

**2. Mix well.**

Be sure to mix the product thoroughly before spraying. Albi Clad FP will transform from thick and putty-like to smooth and creamy when you mix it.

**3. Build up coats with multiple passes.** Some painters are surprised at how much you can hang in a single coat with this product—others will try to spray too much at one pass and the results will be unacceptable.

**4. Concentrate on an aesthetic finish.** This product is both a functional fireproofing and an architectural finish. In order to do an acceptable job, your applicators must achieve a neat, uniform finish at the required thickness.

**5. Adjust application technique to climate conditions.** Remember that high humidity or low temperatures will slow the evaporation rate of water, while high temperatures or drying winds will speed it. Match your application rates to jobsite conditions.

## CHECKLIST FOR APPLYING ALBI CLAD FP

### Priming and Surface Preparation

- Prime Surface or Check Compatibility of Primer.** Be sure surface is primed with compatible primer. If uncertain, check compatibility of primer with Albi lab.
- Clean Primed Surfaces** of residual oil, moisture, dust, frost or other contaminants.

### Pump Equipment

- Airless Pump.** Heavy Duty Airless Spray pump, such as Speedflo Titan Power Twin 8900 or the Graco Gmax series.
- Airless Spray Gun**
- Spray Tips** A range of tip sizes from .419-.423 and 519 -523.
- Hoses** Material lines must be rated at 3000 + psi working pressure with 3/8" inside diameter. Hose length should not exceed 150 feet.

### Other Equipment

- Mixer.** Air-operated motor or electric mixer.
- Drum Handling Equipment** (drum of FP weighs about 600 pounds)
- Movable Scaffolding** as required
- Tools:** Long-handled screwdrivers, wrenches, hose clamps.
- Extra 50 foot section of material hose**
- Empty 5-Gallon Pails** for clean up
- Spare Parts Kit** as recommended by pump manufacturer
- Spare Hose Connectors** for both material and air hoses, including swivel end connectors
- Masking Paper, Tape, Cloths**
- OSHA approved Safety Equipment**
- Thickness Gauges** for measuring wet and dry film thickness
- Foam Paint Rollers and Polyester Brushes** in 3" and 4" widths
- Trowel and Protective Gloves** for patch up work or reaching difficult areas.



## **CONTRACTOR'S CALCULATIONS AND MEASUREMENTS**

### **Estimating Product Quantities**

Coverage Guide: Albi Clad FP exhibits coverage rates per gallon, which can be easily calculated using a standard paint coverage equation. The formula is as follows:

$$\frac{1604}{\text{dry film thickness}} \times 0.70 (\% \text{ volume solids}) = \text{square foot per gallon (at 100\% coverage rate)}$$

### **Converting Dry Film Thickness To Wet Film Thickness**

Contractors will determine their own typical shrinkage rates based on their experience. We recommend planning on 15 – 25% shrinkage from wet to dry film.

## **WARRANTY/GUARANTEE INFORMATION**

Limited warranty/limitation of liability: Information and recommendations provided by Albi are based upon extensive test data, laboratory experiments and years of field experience believed to be reliable. Statements made herein as to coverage, drying performance, application and other properties will vary according to the nature and conditions of the surfaces to which the product is applied.

Albi warrants that its products will meet the specifications that it sets for them. Albi's responsibility under this warranty will be limited solely to replacing the products which prove defective, provided that Buyer gives Albi prompt notice in writing of said defect and satisfactory proof thereof. Products may be returned to Albi only after written authorization has been obtained from Albi. The foregoing warranty is in lieu of all other warranties, whether oral, written, express, implied or statutory. **IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WILL NOT APPLY.** Technical or other advice is furnished by us solely as an accommodation and shall not increase the scope of our responsibilities or liability. Albi's warranty obligations and buyer's remedies hereunder are solely as stated herein. In no event will Albi be liable either for the labor and other associated costs incurred in replacing the product, including, but not limited to, its removal and application, or for other incidental or consequential damages.

Applicator shall guarantee that its installation of material conforms to manufacturer's recommendations and shall further guarantee his workmanship connected with the installation for a period of one year from the date of the installation.