



PlasterMax PIB™

Best Practice Guide

PlasterMax™ PIB Installation Specifications

Interior Base Coat - Insulated Concrete Form

Description

PlasterMax™ PIB is a state-of-the-art abuse resistant base plaster specifically formulated to provide an interior wall substrate for insulated concrete form structures (ICF).

PlasterMax™ PIB is directly applied to properly prepared ICF interiors without the use of lathe and may be installed at full intended thickness in a single application.

PlasterMax™ PIB conforms to ASTM E136, ASTM E84, ASTM G21 and NFPA 286.

Climate



CAUTION

The objective in controlling the interior climate of the building is to assist **PlasterMax™ PIB** to cure naturally and perform as intended. Premature surface drying may cause surface cracking and compromise the performance characteristics of **PlasterMax™ PIB**.

Temperature

PlasterMax™ PIB must be applied on interior walls with a minimum surface temperature and ambient room temperature above 50°F. In colder environments the building shall be heated long enough to bring the surface temperature of the substrate above 50°F and maintained until **PlasterMax™ PIB** has sufficiently cured.

In warmer environments the building shall be cooled long enough to bring the surface temperature of the substrate below 85° and maintained until **PlasterMax™ PIB** has sufficiently cured. Do not apply **PlasterMax™ PIB** in ambient temperatures above 95°F.

Humidity

The building must have a minimum relative humidity shown in **Table 1** to avoid premature surface drying and promote consistent curing. If low humidity conditions exist for a given ambient temperature then measures must be taken to increase the relative humidity for the duration of the **PlasterMax™ PIB** application and curing period.

Temp	50°F	55°F	60°F	65°F	70°F	75°F	80°F	85°F	90°F	95°F
Min. R/H	20%	22%	25%	30%	35%	40%	48%	58%	65%	70%

Table 1 - Humidity Minimums

Ideal Drying

Ideal conditions for **PlasterMax™ PIB** application are 73°F with a 50% relative humidity. The general rule of thumb for identifying good drying conditions is the lower the temperature, the lower the humidity needs to be. Conversely, the higher the building temperature, the higher the relative humidity should be for proper material curing.

Air Movement

Opening windows and/or assisting air movement with fans can greatly assist in maintaining good drying conditions within a building. In excessively hot and dry areas, minimize air movement across the applied walls and add moisture by wetting the floor. Humidifiers or other mechanical means of increasing room humidity may have to be used.

In high humidity areas, increase air flow within the building where **PlasterMax™ PIB** is being installed. Excessive air movement directly on the surface of the **PlasterMax™ PIB**

may prematurely dry the surface and create surface cracks. Avoid direct air movement on the **PlasterMax™ PIB** surface when using fans or other means of climate control.

EPS Substrate Preparation

Rasping

It is necessary to rasp the entire expanded polystyrene (EPS) surface prior to the **PlasterMax™ PIB** application. Completely removing the existing surface by rasping removes any surface contaminants and the newly opened surface improves overall adhesion. Once complete it is necessary to remove any loose EPS material that remains on the wall surface and on the floor of the application area.

Rasping may be done with a typical hand held rasping tool or by attaching self adhering abrasive paper to a straight edge. Straight edge rasping can be a more efficient method as it addresses more surface area and assists in substrate flatness.

Screed Grounds

Removable screed grounds are temporarily installed onto the face of the EPS prior to **PlasterMax™ PIB** application. They serve as temporary guides ensuring proper material application thickness and flatness.

Surveying

Prior to the **PlasterMax™ PIB** application it is necessary to survey the EPS substrate for high spots, walls areas out of plumb and general flatness. Use a straight edge long enough to survey a given substrate area and mark out problematic areas.

Begin to rasp the entire surface of the EPS paying special attention to marked out areas. Check for plumb and flatness with a straight edge before continuing. All EPS wall substrates should be flat and as plumb as possible before completing this step.

Installing Grounds

Removable grounds are temporarily affixed to the rasped EPS at intervals that can be easily reached by a straight edge. Four to six foot spacing is common for straight wall runs. Nails and/or screws are commonly used to temporarily fasten the grounds to the EPS. The most efficient way to install the grounds is to simply push the fastener directly into the EPS, avoiding the plastic webbing strips in the ICF block. This method also allows for easy removal.

Inside corners

Place the removable grounds approximately three inches from the inside corner in each direction. This ensures that an inside corner tool can safely ride on each ground as the corner detail is created with the inside corner tool.

Outside Corners

Affix a removable ground to one corner side-flush with the substrate. Ensure that the substrate on which the ground is attached is flat and straight as this will serve as a basecoat corner side. Once the basecoat is sufficiently set, remove the ground and fill the remaining corner side-following the revealed edge of the first basecoat application.

Ground Options

Temporary grounds may be made of a variety of materials that are 3/8" in thickness and wide enough to follow with a straight edge. Grounds may be made of strips of OSB/plywood, strips of EPS, strips of plastic, etc.

When using a rigid material it is important to drill and countersink holes where temporary fasteners will be used. The fastener head should be at least flush with the ground surface.

Mixing Station

It is recommended to take the time to establish a well organized mixing station. Batching accurately and efficiently will keep the installation on schedule and profitable. The following list provides a checklist for necessary items and practices:

- Tarp off the entire mixing area for easier cleanup
- Water hose or suitable water source
- Power source with GFI receptacle kept away from water usage
- Spare mixer available in case one fails
- Weight scale (optional)
- Graduated water containers for measuring
- Plastic barrel for quickly drawing clean/potable mixing water
- Additional plastic barrel for rinsing/cleaning
- Level surface at “bench” height for measuring water
- Designated area for stocking dry product
- Trash barrel or designated area for opened bags and Trash

Measuring the Water



Accurately measuring the water content per unit of **PlasterMax™ PIB** is critical. Under watering will diminish workability where over watering will diminish overall performance and strength. In **Table 2** water amounts are given in pounds and quarts needed for each 50# bag of **PlasterMax™ PIB**.

No. of Bags	1	2	3	4	5	6	7	8	9	10
Pounds/Water	9.58	19.16	28.74	38.32	47.90	57.48	67.06	76.64	86.22	95.80
Quarts	4.5	9	13.5	18	22.5	27	31.5	36	40.5	45

Table 2 - Water Values per 50# of PlasterMax™ PIB

Mixing Equipment

Mixing **PlasterMax™ PIB** is easy but can be made difficult without the right mixing equipment.



Mixing should be done with an electric heavy duty 1/2" drill capable of 500-600 rpm.

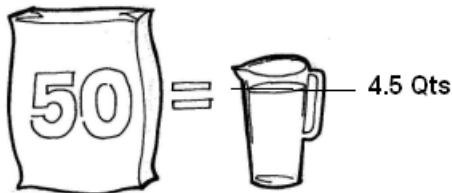


Standard mixing paddles are used with heavy duty 1/2" drills for bucket batching.

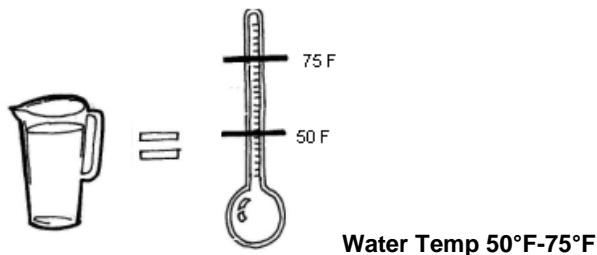


Direct drive mixers are ergonomically designed and minimize torque reduction that increases batch efficiency. Most are equipped with variable speed options that reduce product overflow while blending the dry product with mixing water. Direct drive mixers are recommended over heavy duty 1/2" drills for bucket mixing.

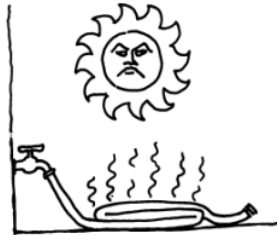
Mixing



Add approximately three (4.5) quarts of clean, potable water per 50 lb. package of dry **PlasterMax™ PIB**. Always add the total water amount to the mixing vessel before adding the dry material. It is recommended to use exact measuring equipment to duplicate water amounts for each batch mixed.



Avoid using water less than 50°F and more than 75°. Higher water temperatures will greatly reduce working time and overall workability. Lower temps will slow the set time and reduce application efficiency.



DO NOT draw mixing water from water hose exposed to the sun or any other heat source.



Adjust mixing water temperature with a cold water source or add ice if necessary. Mixing water temperatures must not exceed 75°F.

DO NOT ADD ICE DIRECTLY TO THE MIXTURE



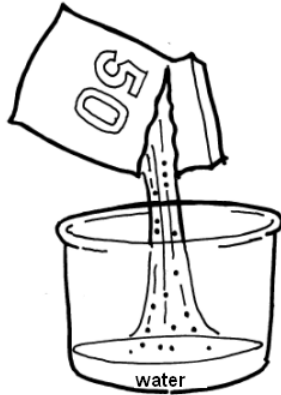
4 Minute Mixing Time

PlasterMax™ PIB requires less water than typical veneer plasters. It is extremely important to allow sufficient time for the product to adequately dissolve and liquefy. Mixing time is approximately 3 to 5 minutes with the ideal target being 4 minutes. Some of the **PlasterMax™ PIB** ingredients trap mixing water before releasing it back into the blend.

DO NOT ADD MORE WATER BEFORE INITIAL MIXING WATER HAS BEEN RELEASED.

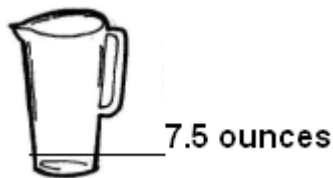
Mixing method

It is recommended to add the total water amount to the mixing vessel first and add approximately half of the **PlasterMax™ PIB** to the water. Slowly mix the added material. Once mixed add the remaining **PlasterMax™ PIB** and mix for 1 minute. Stop mixing and allow to mixture to absorb and release the mixing water for approximately 1 minute. Resume mixing for an additional 2 minutes until a smooth, lump free consistency is met.



Optional Mixing Method Mixing may also be achieved by continuously mixing the material for 4 minutes.

The most common mistake is adding more water before all dry ingredients have absorbed and released the mixing water. **PlasterMax™ PIB always appears like it does not have enough mixing water initially.** Continue mixing regardless of its stiff appearance. Small amounts of water may be added to the batch after 4 minutes of mixing. The maximum amount of additional water is 7.5 ounces.



- DO NOT TEMPER AFTER INITIAL MIXING HAS TAKEN PLACE.
- DO NOT ADD MORE THAN 7.5 OUNCES OF ADDITIONAL WATER
- DO NOT MIX TO FAR AHEAD OF THE APPLICATION

Material Application

Begin by applying the mixed **PlasterMax™ PIB** to the wall starting at the wall bottom. Press a thin layer of material firmly into the rasped EPS and immediately double back with the same batch leaving at least 3/8" of **PlasterMax™ PIB** between any two temporary screeds. Once a sufficient amount of material has been applied, run a straight edge from the wall bottom, twist it at a slight angle and firmly pull the straight edge upward. It is important that the straight edge constantly screeds material flush with the ground and that no voids be left. If a void area occurs, stop, fill the low area with more material and continue to screed.

Continue this practice until all intended wall areas are installed. For inside and outside corners see the "Screed Grounds" section.

Flatness

Once the **PlasterMax™ PIB** is installed it is recommended to check the application for overall flatness. Place a straight edge on the wall and check for bumps or voids that may have been left.

Bumps can be removed by scraping the straight edge along the partially set **PlasterMax™ PIB**, shaving the extra material from the wall. Continue through the entire installation in this manner. THIS MUST BE DONE THE SAME DAY AS THE INSTALLATION.

Voids can be found with the straight edge also. Mark identified low areas while holding the straight edge in place. Additional **PlasterMax™ PIB** may be mixed and applied to the low areas at this time or filled with **PlasterMax™ PIF** prior to the finish coat application.

Texturing

PlasterMax™ PIB must not be finished or worked to a smooth finish. It is important to leave enough mechanical "tooth" for the finish coat to adhere to. One method is to lightly brush the surface of the **PlasterMax™ PIB** with a soft bristle broom. This method is only effective when the material is pliable. Another method is to lightly float the surface with a dampened sponge, slightly raising the aggregate in the material. Avoid overwatering the **PlasterMax™ PIB** surface when using this method.

Delivery Systems / Spray Equipment

PlasterMax™ PIB may be applied by hand trowel or peristaltic pump/spray equipment. When using spray equipment, it may be necessary to adjust the air flow rate, nozzle orifice size and feed rate to maximize application efficiency. Adjust application speed in order to achieve the desired application depth. Testing spraying/pumping equipment and material prior to installation is strongly recommended.



Peristaltic Pump

or “Squeeze Pump”

Peristaltic pumps offer automation to the installation and greatly increase application efficiency. Material never interfaces with pumping parts reducing the set up /wash out time. Peristaltic pumps deliver material safely and effectively. Various output options and sizes are available.

Clean Up

All mixing and finishing equipment must be thoroughly washed immediately after use. Potable water is sufficient for cleaning.

Curing

Ensure that **PlasterMax™ PIB** is allowed to set overnight before applying **PlasterMax™ PIF**.

Limitations

1. **DO NOT OVERWATER**, as this may lead to product failures.
2. **DO NOT** temper the material with additional water after initial mixing as this may lead to product failures. Stiffening **PlasterMax™ PIB** must be discarded if it becomes unworkable.
3. Use water only between 50° F and 75° F
4. Do not add ice directly to the mixture
5. Previously opened, torn or damaged bags must be discarded and not used.
6. The entire content of each bag must be mixed at one time.
7. Not recommended for exterior use.
8. Not recommended where subject to weathering or direct water contact
9. **PlasterMax™ PIB** is subject to cracking under rapid drying conditions which may be caused by low humidity, high temperatures, direct sunlight, and excessive draft.
10. Do not work **PlasterMax™ PIB** to a smooth finish.

Coverage

One 50 lb. (22.6 kg) bag of **PlasterMax™ PIB** covers approximately 25 sq. ft. at a thickness of 3/8 in.

Packaging

PlasterMax™ PIB is packaged in 50 lb. (22.6 kg) moisture resistant sealed plastic bags.

Storage

PlasterMax™ PIB bags should be stored in a secure, indoor and dry space. It is important that bags maintain their seal and are free of puncture or tear. **PlasterMax™ PIB** should be brought to room temperature 24 hours prior to being mixed and applied.

Shelf Life

When properly stored in original sealed packaging, **PlasterMax™ PIB** has a shelf life of one year from the date of manufacture.

Tech Support

Contact GigaCrete, Inc. at (702) 643-6363 (PST) or (508) 636-1976 (EST)

Warning!

Keep out of reach of children.

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Practice Safety! Follow good safety and industrial hygiene practices during the handling and installation of products. Take necessary precautions and wear appropriate personal protective equipment as needed. Read material safety data sheets and related product literature prior to specification and installation.