THICK POUR PFU
Perfect Floor Underlayment

DESCRIPTION:
Parabond Thick Pour Perfect Floor Underlayment is a specially formulated, portland cement-based, polymer modified, pourable or pumpable, high strength compound for smoothing and repairing interior floors up to 1 ½". Thick Pour PFU is self-leveling and self-healing with a flow time of 15 – 20 minutes. Thick Pour PFU creates a hard, flat, smooth surface for the installation of a wide variety of floor covering materials.

USES AND QUALIFICATIONS:
1. For rapid repair and leveling of large areas of concrete or exterior grade plywood sub-floors prior to the installation of carpet, wood, ceramic tile, vinyl flooring and all types of stone veneer floor coverings.
2. Parabond Thick Pour PFU provides an extremely smooth surface due to the regulated use of special polymers and fillers.
3. Parabond Thick Pour PFU can be installed up to 1 ½" in a single pour, and up to 5" with the addition of washed, well graded 1/8" – 1/4" pea gravel.
4. Parabond Thick Pour PFU is compatible with all types of adhesives used for flooring installation.
5. Parabond Thick Pour PFU floor can be walked on in 3-4 hours.
6. Floor covering materials can be installed with in 16 to 24 hours.

DIRECTIONS/PREPARATION:
1. All surfaces of any kind must be clean, solid, free of dust, oil, grease, curing compounds, paint, dirt or any loose substance that might break the bond.
2. All concrete sub-floors must be of adequate strength and completely cured.
3. Mechanically scarify, shotblast, sandblast, or diamond grind the concrete surface to remove any curing or sealing compounds and any other potential bond breaking contaminants.
4. Do not acid etch. Do not use solvents, adhesive removers, or sweeping compounds for surface preparation of any subfloors.
5. Sweep or vacuum any loose materials and damp mop to remove remaining dust.
6. Waiting 48 hours after the substrate has been prepared is highly recommended to prevent outgassing of trapped air and/or moisture contained in the concrete.
7. Prime standard concrete with Parabond M-620 Acrylic Primer diluted 1:1 with water. Apply evenly with a medium push broom covering the entire surface avoiding bare spots. Remove puddles and excess primer. Do not use mops or paint rollers for applications. Allow primer to dry completely before applying Parabond Thick Pour PFU Self Leveling Underlayment. M-620 Primer will dry to a semi-tacky film.
8. Highly absorbent concrete will require two coats of M-620 Primer to prevent pinholes and bubbles in the Thick Pour PFU. Dilute the first application 1 part M-620 to 3 parts water and dilute the second coat 1 part M-620 to 1 part water. Allow the first coat to dry completely (1 to 3 hours) prior to the second application of M-620.
9. Thick Pour PFU can be used over Group 1, exterior grade plywood and hardwood flooring with a deflection not to exceed industry standard of L/360 where L=span length. All wood subfloors must be a minimum of ¾" thickness, securely fastened, rigid, and stable.
10. Wood subfloors must be clean and free of dirt, paint, waxes, sealers, varnishes, or any other materials that could break the bond. It may be necessary to sand down to bare wood. Sweep and/or vacuum all dust and loose materials.
11. Fill open joints, gaps, holes, and cracks with Parabond MicroFinish or Para-Patch Plus patching compound underlayments. (Refer to their respective Technical Data Sheets for application details)

12. Apply undiluted Parabond M-620 Acrylic Primer over the wood sub-floor with a soft push broom covering the entire surface avoiding bare spots. Remove puddles and excess primer. Do not use mops or paint rollers for application. Allow primer to dry completely.. M-620 Primer will dry to a semi-tacky film.
13. Install galvanized diamond metal lath over the entire wood substrate overlapping adjacent pieces approximately 1". Secure the metal lath with staples approximately every 6 inches. Diamond metal lath may be installed before the M-620 Prime has completely dried by walking and standing on the mesh when stapling. Never walk on wet primer. Do not install Thick Pour PFU until the primer is completely dry.
14. Install the Thick Pour PFU no less than ¼" thickness over the highest point of the wood subfloor for joists 16" O.C or less and at least ½" thickness for joists greater than 16" O.C.
15. All adhesive residues, including cutback adhesive from existing floor covering must be scraped off to ensure a maximum thickness of not more than a thin, transparent, well-bonded residue using the wet-scraping method as outlined by the Resilient Floor Covering Institute. Never use adhesive removers or solvents. Sweep and/or vacuum all loose residual adhesive matter. Damp mop to remove any remaining contaminates. Prime with M-620 diluted 1:1 with water as previously stated.

MIXING:

1. Mix 5 quarts of water per 50 lb bag of Thick Pour PFU.
2. The mix water should be clean and cool.
3. Put the water in a container, and then gradually start adding the powder, while mixing at low RPM. Increase the RPM once all the powder has been added.
4. Mixing thoroughly for 2 - 3 minutes, or until a smooth, lump-free consistency is obtained.
5. The recommended equipment is a heavy duty, 1/2", min. 7A, VARIABLE SPEED drill, and a cross-framed mixing paddle.
6. For applications with a thickness greater than 1 ½", up to 5" thick add washed 1/8" – 1/4" pea gravel. Mix the Thick Pour PFU first as stated above and then add pea gravel up to 1 part by volume. Mix until the pea gravel is completely coated with the pre-mixed Thick Pour PFU. Never use sand to extend the Thick Pour PFU.
7. Do not over water the mix, as this will cause particle separation.

PUMPING INSTRUCTIONS:

1. Parabond Thick Pour PFU self-leveling underlayment system can be applied with a batch mixer and pump, or a continuous mixer and pump.
2. Set the meter to correspond to 5 quarts of water per 50 lbs of Thick Pour PFU. Do not over water!
3. To ensure a proper mix, test the consistency of the mix from the end of the hose. The mix should exhibit a uniform distribution of the contained sand aggregate at the top and bottom of the pour. Periodically check the material at the end of the hose to avoid over watering as variations in water and powder may occur during the installation. The water setting may require adjustment during the installation.

APPLICATION:

1. Thick Pour PFU is fluid and self-leveling, dam or fill doorways, joints, cracks, and any area where the mixed material could seep out from the installation.
2. Do Not Slake.
3. Pour or pump the mixed Parabond Thick Pour PFU on the floor and spread the entire mix with a long handled gauge rake or float covering the highest points with a minimum of 1/8" thickness. For wood subfloors a minimum thickness of ¼" for joists 16" O.C. or less and ½" thickness for joists greater than 16" O.C. is required over the highest point.
4. Wear non-metallic baseball or soccer cleat shoes to avoid leaving marks in the pour.
5. Best results are achieved with a continuous flow of mixed wet material installed in narrow lanes. Maintain a wet edge in the pour throughout the installation to prevent creating cold joints.
6. Thick Pour PFU has a flow time and healing time of 15 – 20 minutes at 70°F. Job site temperature and humidity conditions may affect working time and setting times.
7. Protect from excessive draft or heat during curing period.
8. Do not damp cure or use curing and sealing compounds as Thick Pour PFU is self-curing.
9. Wash hands and tools with water promptly after mixing, before the material hardens.
10. Do not disturb the surface for at least 3 hours after application.
11. The Thick Pour PFU will allow foot traffic with in 3 – 4 hours.

12. Floor covering can be installed with in 16 hours. Do not install any floor coverings if the residual moisture content is higher than 3 lbs per 24 hours per 1000 sq. ft. as tested using the Calcium Chloride test ASTM F1869.
13. Drying/Curing times will depend on substrate, thickness, and site conditions.
14. Provide for expansion and control joints where specified. Do not bridge expansion or control joints.
15. Thick Pour PFU may be applied in multiple application layers. Allow the previous installation to cure at least 12 hours prior to the next application. Prime the previous installation using M-620 diluted 1:1 with water before continuing with the next pour. M-620 Primer must be used between installation layers.

LIMITATIONS:

1. Do not install Parabond Thick Pour PFU at temperatures below 40°F or above 100°F. Maintain these temperature ranges for at least 24 hours following application. Thick Pour PFU is self -curing under normal conditions. However, it must be protected from conditions that may cause rapid drying such as drafty conditions, high temperature, hot mix water and hot surfaces. Follow ACI hot weather guidelines for installations at temperatures above 85°F.
2. Parabond Thick Pour PFU will not adhere to contaminated floors.
3. Excess water will weaken material and cause cracks. Do not over water.
4. Do not use over gypsum, asphalt, light-weight concrete, metal, presswood, flakeboard, or any other unstable substrates.
5. Parabond Thick Pour PFU is not a wear surface.
6. Parabond Thick Pour PFU is water-resistant (i.e. insoluble in water) but it should not be applied to any on or below-grade concrete surface that has excess moisture or has a hydrostatic pressure problem. We recommend conducting moisture tests using the Calcium Chloride test ASTM F1869 on all on or below-grade concrete surfaces.
7. For interior use in dry areas only. Do not use in areas subject to constant water exposure.
8. Do not bridge or cover expansion or control joints.
9. Install adequate test areas to determine the suitability of products for the intended use.

HAZARDOUS INGREDIENTS

Chemical Name	CAS#	% by Weight	ACGIH TLV	OSHA PEL
Quartz Silica	14808-60-7	30-40	0.05 mg/M^3	.01mg/M^3
Portland Cement	65997-15-1	15-25	10 mg/M^3	10 mg/M^3
Calcium Aluminate	65997-16-2	10-15	3 mg/M^3	5 mg/M^3
Calcium Carbonate	1317-65-3	2-6	10 mg/M^3	10 mg/M^3
Calcium Sulfate	26499-65-0	2-6	10 mg/M^3	15 mg/M^3
Polymer	Proprietary	2-6	10 mg/M^3	10 mg/M^3

TECHNICAL DATA

Flow Time 15 - 20 minutes
Initial Set: @ 73°F/22.5°C 60 minutes
Final Set: @ 73°F/22.5°C 2 hours
Walk on time 3-4 hours
Color Gray
Compressive strength/ASTM C-109

- 4 hours Minimum 800psi
- 28 days Minimum 4000psi

Installation of floor covering Typically 16-24 hours after placement, depending on thickness, nature of sub-floor and job site temperature.

COVERAGE:
25-30 sq ft at 1/4" thickness per 50# bag

SHELF LIFE:
6 months when stored in original unopened packaging in a dry area at 60-80°F.

SAFETY, HAZARDS & FIRST AID:
This product contains Portland Cement. Skin or eye contact with moist or wet product can cause drying, irritation, and painful caustic burns. Avoid skin contact by wearing rubber gloves with suitable clothing. Protect eyes by wearing safety glasses or tight fitting goggles.

FIRST AID:
Skin – Immediately wash affected areas thoroughly with soap and water.
Eyes –Immediately flush with water for 15 minutes. Seek immediate medical attention.
Inhalation - Inhaling fine dusts during mixing of product can cause coughing and irritation to the upper respiratory system.
Ingestion - Do not ingest as this material hardens when wet and may cause gastric distress and obstruction. If ingestion occurs contact a physician immediately.

This product contains crystalline silica, inhalation of which can cause injury to lungs, silicosis (lung disease), and cancer, with long term repeated overexposure.

WARNING:
Crystalline silica is known to the state of California to cause cancer. Avoid creating dust and wear an approved NIOSH dust mask or respirator to prevent dust inhalation. First Aid: Remove to fresh air. Contact a physician if breathing difficulties occur.

FOR MORE INFORMATION READ MATERIAL SAFETY DATA SHEET

KEEP OUT OF REACH OF CHILDREN

DISCLAIMER:
All data given is based on repeated results in controlled lab conditions. Field results may differ slightly depending on site conditions, type of substrate, temperature, actual thickness, method of mixing and application.

WARNING!!
Do not sand, dry sweep, dry scrape, drill, saw, bead-blast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalt "cutback" adhesive, or other adhesive.
These products may contain asbestos fibers and/or crystalline silica.
Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard.
Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.
Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos.
Regulations may require that the material be tested to determine asbestos content.
RFCI's Recommended Work Practices for Removal of Resilient Floor Coverings are defined set of instructions addressed to the task of removing all resilient floor covering structures.

NOTICE
Various Federal, State and Local government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable regulations. For more information RFCI at:
Resilient Floor Covering Institute
401 East Jefferson ST. Suite 102
Rockville, MD 20850
301-340-8580

WARRANTY:
Para-Chem warrants the above underlayment compound for a period equal to that of the adhesive utilized to install the finished flooring. Proof of purchase and warranty of said adhesive must be provided at time of claim. Provided these conditions are satisfied, Para-Chem will perform as follows: If an installation failure occurs as a direct result of out-of-specification underlayment compound, Para-Chem will cover all materials and if flooring was professionally installed Para-Chem will pay reasonable labor costs. Materials must be of the same type and grade if available, if unavailable or discontinued, Para-Chem may elect to return initial purchase price.
This warranty shall be void if the Parabond Thick Pour PFU is applied other than in accordance with Para-Chem products installation guidelines. This warranty is in lieu of all other warranties, expressed or implied. Except as specified above, Para-Chem shall not be liable to anyone for incidental, indirect, special punitive or consequential damages, including but not limited to damage for loss of property or equipment, loss of profits or revenue, loss of use or cost of capital. Under no circumstances shall any failure of Para-Chem to replace any allegedly defective product affect the foregoing disclaimer.

9/21/06

MATERIAL SAFETY DATA SHEET

Para-Chem®, PO Box 127, Simpsonville, SC 29681
24-Hour Emergency Telephone: (864) 967-7691

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: PARABOND® THICK POUR PFU PERFECT FLOOR UNDERLAYMENT
CHEMICAL FAMILY: Cementitious Leveling Compound

SECTION 2. HAZARDOUS INGREDIENTS AND EXPOSURE LIMITS

Chemical Name	CAS Number	% by Weight	ACGIH TLV	OSHA PEL
Quartz Silica	14808-60-7	30-40	0.05 mg/M^3	0.01 mg/M^3
Portland Cement	65997-15-1	15-25	10 mg/M^3	10 mg/M^3
Calcium Aluminate	65997-16-2	10-15	3 mg/M^3	5 mg/M^3
Calcium Carbonate	1317-65-3	2-6	10 mg/M^3	10 mg/M^3
Calcium Sulfate	26499-65-0	2-6	10 mg/M^3	15 mg/M^3
Polymer	Proprietary	2-6	10 mg/M^3	10 mg/M^3

SECTION 3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY: Eyes, skin, and inhalation
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory problems such as bronchitis, emphysema, chronic obstructive pulmonary disease.
POTENTIAL HEALTH EFFECTS:

EYE CONTACT: May cause irritation, stinging, pain, redness through abrasion. Can cause mild to severe irritation leading to caustic burns once moist and not removed.

SKIN CONTACT:. May cause irritation and redness to moist skin. Prolonged exposure where product becomes moist can lead to caustic burns.

INGESTION: May cause gastric distress. Hardens when wet.

INHALATION: May cause irritation to throat, nose and respiratory system. Prolonged or repeated overexposure may cause silicosis.

CHRONIC: Crystalline silica causes all forms of silicosis, a degenerative lung condition/disease characterized by progressive shortness of breath, coughing, sputum production and in acute stage is fatal. See Section 11.
CARCINOGENICITY: This product contains crystalline silica which is classified as a carcinogen by the NTP and IARC, but is not classified as a carcinogen by OSHA. See Section 11.

SECTION 4. FIRST AID MEASURES

EYE CONTACT: Flush with water for 15 minutes. Contact a physician if irritation occurs.
SKIN CONTACT: Wash with soap and water. Contact a physician if irritation occurs.
INGESTION: Product may harden on contact with water and result in obstruction. Contact a physician if irritation occurs.
INHALATION: If exposed to excessive levels of dust, remove to fresh air. Contact a physician if irritation occurs.

SECTION 5. FIRE-FIGHTING MEASURES

FLASH POINT (^{o})F: None.
LOWER FLAMMABLE LIMIT: None. UPPER FLAMMABLE LIMIT: None.
FIRE-FIGHTING INSTRUCTIONS: Not applicable. EXTINGUISHING MEDIA: Not applicable.
DECOMPOSITION PRODUCTS: None. Product will harden if wet.

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Sweep, shovel, or vacuum spilled material into a waste container for disposal. Avoid creating excessive dust. Solidifies when wet.

SECTION 7. HANDLING AND STORAGE

HANDLING: Use good hygienic practices. (Wash hands before eating, using washroom, or smoking.)
Keep out of the reach of children. Remove contaminated clothing immediately.
STORAGE: Store in dry area. Keep tightly closed or sealed when not being used. Contact with moisture or water will cause product to harden.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Minimum - Safety glasses w/side shields or goggles. Preferred – Air tight sealing goggles.

SKIN PROTECTION: Leather gloves for handling dry material. Waterproof rubber gloves under moist or wet handling conditions. Clothing as needed to protect body from exposure. Remove and wash clothing after exposure or if it becomes wet during work period.

RESPIRATORY PROTECTION: Use NIOSH, MSHA, or OSHA approved dust masks suitable to prevent inhalation of respirable dust under conditions where dusting exceeds the PEL. Use approved NIOSH full face respirator under high dust exposure conditions.

ENGINEERING CONTROLS: Standard mechanical ventilation to keep dust below PEL. Site specific exhaust where exposure to high concentrations of dust occurs during processing or in enclosed work areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT (^{o}F): Not applicable. SPECIFIC GRAVITY (WATER = 1): 1.7
VAPOR PRESSURE: Not applicable. VAPOR DENSITY (air=1): Not applicable.
% VOLATILE BY WEIGHT: 0 pH: Wet material: 10 - 12
APPEARANCE AND ODOR: Light gray powder with no odor.

SECTION 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.
POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Mixing with water, acids, ammonium or metal salts.
HAZARDOUS DECOMPOSITION PRODUCTS: None.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute/Chronic exposure: Repeated and/or long term exposure to dust can cause inflammation (swelling) of the lining tissues of the nose and cornea (eye). Some individuals may develop skin allergy. Acute exposure to high dust levels can result in severe coughing, difficulty in breathing, and reduced pulmonary function. Acute exposure in animal testing has resulted in damage to lungs, and pulmonary edema.

Crystalline Silica:

Silicosis - Chronic inhalation exposure across long periods can lead to chronic (simple) silicosis, characterized by lung lesions primarily in the upper lung zones. Often, no symptoms exist from simple silicosis. Simple silicosis can progress to more complicated silicosis or progressive massive fibrosis, where lung lesions increase in size. Again, no direct symptoms may be apparent, but if present include shortness of breath, wheezing, cough, and sputum production with resultant decreased lung function that can be disabling and if allowed to progress may lead to death or secondary heart disease. Accelerated silicosis results in the same exposure effects across a much shorter period where an individual is exposed to chronic high concentrations of respirable crystalline silica. Acute silicosis is an advanced state produced by very high levels of exposure and can occur over a period of only several months leading to death.

Carcinogenicity – IARC and NTP characterize crystalline silica inhaled in the form of quartz or cristobalite as carcinogenic in humans and test animals. IARC also noted that carcinogenicity was not detected in all industrial circumstances studied. OSHA does not regulate crystalline silica as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Product is composed predominantly of naturally occurring minerals and/or processed from natural occurring minerals and is expected to have minimal effect on the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State and Local regulations. Dispose of in a fashion that prevents the generation of airborne dusts.

SECTION 14. TRANSPORT INFORMATION

For domestic transportation purposes, this product is not designated as a hazardous material by the U.S. Department Of Transportation.

SECTION 15. REGULATORY INFORMATION

TSCA: All ingredients of this product are listed on the TSCA inventory.
SARA TITLE III:
Section 311 and 312 Health and Physical Hazards:

Immediate	Delayed	Fire	Pressure	Reactivity
[X]	[X]	[ ]	[ ]	[ ]

Section 313 Reportable Chemicals: None above de minimus reporting levels.
CALIFORNIA PROPOSITION 65: This product contains crystalline silica, a substance known to the state of California to cause cancer.

SECTION 16. OTHER INFORMATION

HMIS RATINGS: Health = 1* Flammability = 0 Reactivity = 0
Personal Protective Equipment = E * Denotes potential chronic hazard
Hazard rating scale: 0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe

DATE ISSUED: August 11, 2006 [Rev. 1] PREPARED BY: R. W. Smith, Jr.