GENERAL & SAFETY GUIDELINES

SAFETY

These guidelines cover safety and storage of Poly-Tuff Systems International (PSI) elastomeric coatings. Warning: Failure to follow these guidelines can result in bodily injury or property damage. Check all local, state and federal regulations for compliance.

1.01 PSI PRODUCES THREE BASIC TYPES OF COATINGS

A. Many of these are solvent based,100% solids, and water-catalyzed coatings. Each type has specific hazard potentials and storage requirements.
   1. Solvent-solution coatings have hazards associated with fire, solvent toxicity and chemical toxicity.
   2. 100% solids coatings have low fire risk but may require special care because of chemical toxicity.
   3. Water-catalyzed coatings have negligible risk of fire and very low to moderate chemical toxicity.

B. Both the contractor and workman must know the precautions necessary to protect against fire, explosive combustion and toxicity.

C. The contractor and his employees should be familiar with the individual product labels, safety data sheets (SDS), Product Data Sheets and Guide Specifications that describe specific hazards, content, proper use and storage recommendations.

D. To protect against fire, explosion and chemical toxicity, it is important to provide adequate ventilation at all times. Many coating applications are in open exterior areas where natural ventilation minimizes hazards.

E. Applications in confined spaces and tanks pose greater danger. Use extreme caution.
   1. Remove all ignition sources.
   2. Check atmosphere for oxygen deficiencies.
   3. Use adequate personal protective equipment.
   4. Observe precautions pertaining to confined space entry. Confined space "Entry Permit" may be required; check with OSHA, EPA and other local regulatory agencies before proceeding.
   5. When natural air movement is insufficient, as in a confined area, forced air ventilation is required.
   6. Confined areas are best ventilated by equipment which exhausts the air from near floor level, since solvent vapors are heavier than air and tend to collect in low areas.
   7. A competent, properly-equipped workman must be stationed outside confined areas while work is in progress to assist in case of emergency.
   8. Block off air-conditioned intake duct and do not run air-conditioner near area of coating application.

1.02 FIRE AND EXPLOSION PREVENTION

A. Flash points are listed in the Safety Data Sheets (SDS) for each of PSI products containing solvent.

B. The workman and foreman must know the flash point for material being applied.
   1. The flash point is the lowest temperature at which a coating gives off sufficient solvent vapor to form an ignitable mixture with air.
   2. This mixture of solvent vapor and air can be ignited by an outside source such as sparks, static electricity, flame, fire, lit cigarettes, etc.

C. When combustible vapor is mixed with air in certain proportions, ignition will produce an explosion.
   1. Fire and explosion hazards are reduced to a minimum when solvent vapors are controlled.
   2. When work must be done where fire and explosion hazards are present, solvent vapors must be reduced to a minimum. When work must be done in confined areas, solvent-vapor concentrations should be

routinely checked with OSHA approved equipment. Should vapor concentrations approach the lower limit, increase air ventilation or stop coating application until the vapor concentration is reduced to a safe level.

3. Do not work in confined areas, even with ventilation and respirators, when concentrations of solvent vapors are above the lower explosive limit.

D. Open flame, welding, smoking or other ignition sources shall not be allowed in a building, overhead or near a building where coating is being applied or has been recently applied.
E. Proper "No Smoking" and "Fire Hazard" signs shall be placed in the working and restricted areas.
F. All electrical equipment and outlets must be grounded. This includes switches, connectors, lights and motors. Lights must have a protective enclosure to prevent physical damage.
G. Whenever solvent vapors are present, all electrical equipment must be explosion proof, complying with the National Electrical Code. It is the responsibility of the contractor to verify that these precautions are in place.
H. Any equipment, such as spray guns and compressed air nozzles, which can produce a static charge, must be grounded.
I. All hand tools used in solvent vapor areas must be of non-sparking construction.
J. When non-compliant tools are present, there must be proper ventilation as to free air of solvent vapor or exhaust to an area free of solvent vapor or exhaust solvent-laden air through before beginning work.
K. Work clothes must be of a material such as cotton, which does not generate static charges. Beware of synthetic materials. Shoes should not have metal sole plates since these cause sparking.
L. Have fire extinguishers as prescribed by NFPA, the Fire Department, and/or OSHA within easy access of work areas where solvenated coatings are being applied. Check with NFPA and local fire regulations for proper extinguishers.
M. Ventilation shall be provided to coated areas not only during application but also for sufficient time after to ensure complete evaporation of solvents.
N. One person must be assigned at all times the clear responsibility to look for and turn off any equipment which could cause ignition of solvent vapors. This includes pilot lights, switches, electric spark starters, and motors. Workmen must lock switches to prevent accidental operation when solvent vapors are present.
O. Mixing of materials must be done in a well ventilated area.

1.03 TOXICITY AND HEALTH CONSIDERATIONS

A. Isocyanates may cause allergic skin or respiratory reactions. Individuals with chronic respiratory problems or prior respiratory reactions to such material should not be exposed to vapors. All personnel in the application area must wear OSHA approved air respirators where an airborne concentration of isocyanate vapors is expected to exceed the threshold limit value (TLV) or concentration levels are unknown.
B. For emergencies, use a positive pressure, self-contained breathing apparatus. Cartridge-type respirators are not approved for protection against isocyanates because they have poor warning properties since the odor at which isocyanate can be smelled is substantially higher than the exposure limits. Use explosion proof, suction type, and ventilation equipment (exhaust fans and blowers) with sufficient CFM capacity to keep isocyanate vapors below the TLV limit.
C. **Caution!** Air circulation and exhaustion of isocyanate vapors must be maintained until the coatings have fully cured to ensure that no potential fire, explosion or health hazard remains.
    1. Warning symptoms (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation.
    2. This product can produce asthmatic sensitization upon even a single inhalation or upon repeated inhalation exposures to lower concentrations.
    3. Exposure to vapors of heated isocyanates can be extremely dangerous. Employee education and training in safe handling of this material is required under OSHA Hazard Communication Standard.
D. Portable air-sampling equipment is available to measure the content of some solvents in the air. Workmen and foremen must be certain that measurements of this type are being made when men are working in an enclosed area.

E. An approved fresh-air-supplied respirator with an approved source of air must be used for protection when solvent vapor and isocynates are present.
F. The use of fresh-air-supplied respirator does not reduce the necessity for good ventilation to lessen fire hazards and ensure proper drying of coatings.
G. Any time a workman begins to feel discomfort or irritation to the eyes, nose, or throat, the concentration of solvent vapor is too high for steady exposure.
    1. If a person feels light headed, giddy, dizzy or exhilarated, the solvent-vapor concentration is too high and must be reduced by better ventilation.
    2. Any persons so affected must go to an area of fresh air.
H. The effectiveness of ventilation depends on the physical barriers which restrict airflow.
    1. Open exterior areas on roofs or decks ventilate normally by natural air movement.
    2. Confined areas in rooms, tanks and sump pit or pond areas, as well as roofs or decks surrounded by walls or high parapets, require forced air ventilation.
I. Solvents may cause allergic skin or respiratory reactions.
    1. Immediate effect is stupor (central nervous system depression). Individuals with chronic respiratory problems or prior respiratory reactions to such materials should not be exposed to vapors.
J. The application method of using an airless sprayer will cause the same volume of product to produce higher airborne vapor concentrations in a shorter period of time than other application methods. It is important that air is monitored and full precautions are taken as indicated above.
K. First Aid: In case of skin contact, remove contaminated clothing as needed and immediately wash off with plenty of water and mild soap for at least 15 minutes.
L. If medical attention is required, have label and Safety Data Sheet (SDS) available for physician.
M. For industrial use by professional applicators only.
    1. Not intended for sale to the general public.
    2. Not to be sold or delivered to a minor.
    3. Keep out of the reach of children!

1.04 HEALTH AND SAFETY PRECAUTIONS

A. The uncured components of these products can cause irritation to the eyes, skin, mucous membranes and respiratory tract and are harmful if swallowed. Avoid contact with eyes and skin, especially open cuts. Wear protective clothing, chemical-resistant-rubber gloves, chemical-tight goggles, protective-barrier cream, etc. to prevent contact with material.
B. Wash hands with soap and water before eating, drinking, smoking, applying cosmetics, or using the toilet facilities.
C. Wash contaminated clothing and footwear before reuse. Air dry contaminated clothing in a well-ventilated area before laundering.
D. Discard nu-washable contaminated shoes and clothing. Safety shower and eye wash stations should be available.
E. Educate and train employees in the safe use of this product. Untrained persons must not be allowed in or around work area unsupervised and without proper safety and respiratory equipment.
F. Prior to beginning any project, ensure the health and safety of building occupants and people in adjacent areas and buildings
    1. Vapors are heavier than air and can travel considerable distances. Take care to protect these people by posting signs, sealing off buildings from infiltration of odors and fumes by turning off air intake, vacating the building or using other appropriate measures.
    2. Precautions should continue until coatings have completely cured and no residual odor remains.
G. These products may contain chemicals which the State of California lists as causing cancer, birth defects, or other reproductive harm (Proposition 65).

1.05 OTHER SAFETY CONSIDERATIONS

Footwear must be a safety shoe with steel toe for protection. 55 gallon (208.20 liter) drums of coating are very heavy and can cause considerable damage if set on an unprotected foot. The sole should be of a soft, resilient material to give the best traction without damaging coated areas.

Use extreme caution when working on sloped area. Use lifelines.
When working in bright sun with light colored coating, wear dark glasses to prevent glare blindness.

1.06 PROPERTY PRECAUTIONS

A. Consider possible damage to property. Overspray can ruin finishes on autos and other surfaces (brick, paint, plastic, etc.).
B. Solvent vapors in confined areas can damage plants and pets, including tropical fish and birds.
C. Foods, even those stored in freezers, can pick up a solvent taste and should be protected from vapors.

1.07 STORAGE

A. Moisture reacts with isocyanates to produce carbon dioxide. Do not breathe the vapors.
B. Store in tightly closed containers to prevent moisture contamination.
C. Keep product in a cool, dry, ventilated storage area in closed containers and out of direct sunlight.
D. Store in containers above ground and surrounded by dikes to contain spills or leaks.
E. All material should be stored in a cool, shaded place, preferably at a temperature of 65°F (18°C). Higher storage temperatures for extended periods can cause thickening and even gelatin of elastomeric coatings. Water-based primers and coatings should not be allowed to freeze and store them above 50°F (10°C).
F. When opening containers, check them first for any signs of expansion which can occur due to pressure build up resulting from moisture reaction.
    1. Open containers carefully, pointing them away from face and body to prevent expulsion of material.
G. Whenever work is stopped for the day, all coatings and thinners should be stored in tightly sealed, factory containers to prevent evaporation and fire hazard.
H. Materials left on unsupervised job sites may attract the curious or the malicious. Protect your materials properly and avoid potential harm to others.
I. Do not keep open containers in confined places.
K. Containers, even those that have been emptied, may contain dangerous and explosive vapors.
    1. Do not cut, drill, grind, weld or perform similar operations on or near containers.
    2. Do not pressurize containers to empty them. In the event that thinners and/or solvents are used, for clean-up or dilution, consult the Safety Data Sheet (SDS) for that particular product for additional health and safety information.
    3. Dispose empty containers in accordance with local, state and federal regulations.
L. The above information is based on standard industrial practices and is meant to outline the hazards but is not necessarily all inclusive. Common sense and care in evaluating the possibility of hazards is essential.
M. Nothing contained herein should supersede local laws, codes, ordinances or regulations.
N. The standards and regulations published by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, EPA and local statutory authorities, where applicable, should be consulted for further detail and compliance.

1.08 CONFINED SPACES AND TANKS

A. This type of application poses greater dangers.

1. Use extreme caution. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.
2. Remove all ignition sources.
3. Check atmosphere for explosiveness and oxygen deficiencies. Use adequate personal protective equipment.
4. Disconnect all electrical motors, equipment and follow tag in and tag out procedures.

B. Observe precautions pertaining to confined space entry.
C. Follow all federal, state and local rules and regulations and procedures and follow all permit requirements.
D. Ensure to use the right Product Grade which comply with VOC regulations as per Federal, State, Statutory Bodies, County and City Regulations/Codes at the place of installation of Products at job site.

Confined space "Entry Permit" may be required: Check with OSHA, EPA and other local regulatory agencies before proceeding.

SURFACE PREPARATION

2.01 JOB CONDITIONS

A. Construction work such as expansion joints, control joints, drains, ducts and other penetrations should be complete prior to the coating application.
B. Surfaces must be thoroughly dry to ensure adhesion of all primers and coatings. When in doubt, test for moisture with a moisture meter or 16-hour mat test (ASTM D-4263).
C. Dirt or dust which settles on surfaces before start of work or between coats must be removed.
D. Surface temperature should be 50°F (10°C) or above because cooler surfaces may have ice, frost or condensation.
   1. Application of some coatings can be done at lower temperatures provided the surface is free of moisture.
   2. The ideal conditions for curing are 70°F (21°C) and 50% relative humidity.
   3. See temperature limitations listed in Product Data Sheets.
E. Job specifications require that surfaces be accepted by the coating applicator prior to start of work.
   1. Substrates which are not structurally sound or which do not meet the specification requirements for surface finish or condition, should not be accepted.
   2. Correction of surface defects is the general contractor's responsibility. Review of specification requirements with the general contractor before the substrate is constructed will minimize problems at the time of acceptance.

2.02 SURFACE PREPARATION

A. Concrete or plywood substrates must be free of all contamination that may impair proper bonding.
B. Substrates must be sloped a minimum of 2% or 1/4" (0.64 cm) per foot for drainage, and must be primed with the applicable primer prior to application of the membrane and surface protection materials.
C. **Concrete**: The surface of concrete substrates must be clean and free of standing water.
   1. All holes, joints and cracks must be filled flush with approved mortar and all high spots cut or ground off to provide a smooth, even surface.
   2. Before the material is applied, the substrate must be swept or blown clean to remove dust or foreign material.
   3. Paint, grease and oil must be removed either by grinding or sand blasting and new concrete surfaces must be shot blasted or water blasted.
   4. Control joints are cut per standard concrete construction and caulked.

5. Concrete must exhibit 3000 psi minimum strength.
6. Concrete surfaces to be coated must be trowel finished in compliance with the American Concrete Institute (except that hand troweling is not required), followed by a fine hair brooming, left free of loose particles, and shall be without ridges, projections, voids and concrete droppings that would be mechanically detrimental to coating application or function.
7. Concrete surfaces require a medium sandpaper finish equal to or greater than an ICRI CSP #3. Surface preparation may be completed by shot blasting or the use of Poly-Tuff Profile and Etch cleaner. Peel and adhesion tests are recommended.
8. Neat cement sacking is not an acceptable surface preparation for coatings.

D. **Plywood:** Plywood should be new or cleaned and sanded.
   1. Plywood must be exterior grade plywood, having tongue-and-groove edges and ends perpendicular to supports.
   2. The plywood is a minimum 19/32" (1.51 cm), 5/8"(1.58 cm), 21/32" (1.67 cm), or 3/4" (1.91 cm) thick.
   3. Plywood should be installed with a maximum of 1/6" (0.42 cm) space between the plywood sheets and laid over joists on 16" (41 cm) centers.
   4. Plywood sheets must be screwed down securely or nailed with coated annular ring or screw shank nails.
   5. If the underside of the joists is covered, the floor/ceiling cavity must be vented to aid in drying and to minimize moisture buildup in the deck structure.
   6. Damaged panels shall be repaired or replaced prior to coating.
   7. Old plywood must be primed with PSI primer at a rate of 1 gallon/300 sqft (0.14 liters/m²) prior to coating application.
   8. The only acceptable grade of plywood is APA rated, exterior grade with exterior glue or better.
   9. The appearance characteristics of the panel grade should be considered.

   Note: The above plywood grade is called out in compliance with the American Plywood Association's Standard. Plywood grading which does not reference APA markings may not be a suitable grade.

E. No liability is assumed by PSI for defects in the substrate including improper surface preparation resulting in a coating surface that is not suitable for accepting coatings.

2.03 PROTECTION OF WORK

A. While work is under way and for 72 hours thereafter, traffic from other trades should be stopped.
B Material should be stored on plywood or non-asphaltic insulation board.
C. Adjacent surfaces which are not to be coated, such as walls, thresholds, fascia's, etc., should be carefully masked before priming and coating.
   1. Mask vertical surfaces at the line detailed in the architectural drawings or, if none is shown, mask 4" (10.16 cm) or more up from the deck.
   2. When coatings are applied by spray, caution is necessary, particularly during windy weather, to prevent overspray damage.

2.04 PRIMING

A. PSI elastomeric coatings frequently require a primer.
   1. The preferred primer varies with the substrate.
   2. Guide Specifications state primer requirements.
   3. Product Data Sheets contain application instructions.

2.05 CONCRETE

A. Sealing Concrete:
   1. Most concrete has surface porosity although it is seldom visible. This porosity develops at the time of placement from various causes including water content, drying rate, aggregate type and troweling action.
   2. When elastomeric coatings are placed over concrete, there is a risk that blisters will form, from out gassing through surface pores. This risk is minimized by the use of a primer system. Where concrete out gassing may occur, the primer should be used to fill in the pin holes and allowed to dry. Single component primers are not recommended for this use.
B. PSI Primer should be applied on all concrete and dense aggregate structural concrete.
C. Prime entire deck surface and all vertical or sloping surfaces of curbs, cants, parapets, etc. which are to receive coatings with one coat of PSI primer applied by roller or spray. The coverage is about 1 gallon/300 sqft (0.14 liters/m²). Refer to individual Product Data Sheets for coverage rates based on PSI primer used.
D. Allow primer to become tack free before proceeding to Coating Application. The point at which the primer is generally discerned as nearly tack free is when the primer passes the thumbprint test. The thumbprint test is defined by when a thumbprint is left in the primer and the primer does not transfer onto the thumb. If the primer has been allowed to remain tack free for more than 12 hours, it is necessary to solvent wipe the primed area and reprime.
E. Note: Surface temperature is more important than air temperature. The normal minimum surface temperature for application is 50°F (10°C).

2.06 WOOD

A. PSI urethane coatings are self priming when applied to new wood construction.
B. For optimum adhesion on old plywood it is advisable to use PSI primer.
C. Never apply primer to wet or moist surfaces.

2.07 STEEL

A. Abrade or sand steel surfaces until the metal is bright. Solvent wipe after cleaning.
B. Apply PSI primer at the rate of 1 gallon/300 sqft (0.14 liters/m²). Primer should be permitted to dry tack free before applying coating. This ensures proper adhesion under most conditions.
C. Never apply Primer to wet or moist surfaces.

2.08 COATED SURFACES

A. Urethane decks to be recoated should be thoroughly cleaned, dried, and primed with PSI Primer at the rate of 1 gallon/300 sqft (0.14 liters/m²).
B. All coated surfaces require special attention.
   1. A test patch should be applied to check for bonding. If adhesion to substrate is poor and lifting does occur, remove coating before coatings are applied.
   2. If adhesion is good, the surface is smooth and no lifting occurs, apply coating as specified.
   3. Do not coat over decorative cementitious coatings.

2.09 CRACK AND JOINTS

A. SEALING OF CRACKS, CONSTRUCTION JOINTS, SUBSTRATE CHANGES, AND FLASHINGS

1. This step, which follows priming and precedes coating, is the most critical stage in the application of PSI coatings.
2. Success or failure in application of this system depends largely on how they are treated.
3. Working cracks in concrete are joints or cracks which have moved or will move appreciably, in any or all of the three dimensions, due to thermal changes or vibration.
4. A crack which extends at each end to the edge of the surface, to a building expansion joint, or to another working crack, may be a working crack.
5. A crack with minute broken fragments along the edge is probably a working crack.

2.10 CONCRETE

A. To prepare expansion joints, substrate changes, cracks and flashings, apply backer rod if necessary then use P-Tuff® Classic mixed material to fill joints and apply reinforcement tape, embedded into the P-Tuff® Classic mixed material with a stripe coat centered over the crack. P-Tuff® Classic mixed material is a mixture of 4 parts P-Tuff® Classic and 1 part of water by volume.
B. The crack must be fully sealed. Cracks over 1/16" (0.16 cm) shall be routed to 1/4" x 1/4" (0.64 cm x 0.64 cm) prior to application of P-Tuff® Classic, E-Tuff® mixed material or sealant and reinforcing tape.
C. The use of Super Seal Tape is an acceptable form of crack and joint protection against leaks and failure. Please carefully review the Super Seal Tape Products Data Sheet and details. No crack chasing is generally required with the use of Super Seal Tape.

2.11 SUBSTRATE CHANGES

A. Use caulking and reinforcement tape, with a stripe coat centered over the crack, backer rod and polyurethane sealant as required at changes in substrate material.
B. Reinforcement tape must be embedded into the P-Tuff® or E-Tuff® membrane material or sealant. It is also required when the substrate changes plane in a valley, or a crack exists at other changes in plane.

2.12 JOINT IN PLYWOOD

A. When a joint must be invisible at close range, filling voids and nail heads is necessary.
B. Most polyurethane or PTS Sealants are acceptable with the use of Super Seal Tape to hide or bridge the crack or joint.
C. To prepare plywood joints, flashings and substrate changes, use P-Tuff® Classic, E-Tuff® mixed material to fill joints and apply polyester tape embedded into the P-Tuff® Classic, E-Tuff® mixed material with a stripe coat centered over supported joints on the same plane, supported joints at changes in plane, or unsupported joints. P-Tuff® Classic, E-Tuff® mixed material is a mixture of 4 parts P-Tuff® Classic, E-Tuff® and 1 part of water by volume. Super Seal Tape may be used over plywood joints in non ICCC-ES evaluated systems.
D. Defects in taping and flashing must be corrected prior to proceeding with basecoats.

2.13 COATING APPLICATION

A. PSI materials are one and two components, liquid applied polyurethanes.
B. When properly combined and applied they cure to form tough, high-strength elastomeric membranes.
C. All specified quantities are minimums and are on an undiluted basis.
D. No allowances have been made for material waste, uneven surfaces, spillage, material applied thicker than specified, or material left in containers or equipment.

E. Coverage rates on quotes and data sheets are intended to be minimum coverage rates for warranties on clean smooth plywood or other existing surfaces that are medium sandpaper or light broom finished texture concrete. Coverage rates are not intended to include the estimated amount of coating necessary to fill rough surfaces, potholes, spalling, scaling, and irregular surface imperfections. Coverage rates will vary depending on temperature, relative humidity, surface roughness and porosity, aggregate selection and embedment, and application technique. Coverage rates provided are optimal and are not guaranteed.

F. Material mil thickness rates are calculated on the theoretical coverage for smooth substrate and do not account for the actual texture or substrate conditions in the field or at the time of application. Sample mock ups on the projects are recommended to determine the exact coverage rates necessary to waterproof the deck and acceptable standards. Imperfections, spalling, scaling, rough surfaces, potholes, slope correction and other irregular textured surfaces may be filled in with P-Tuff Classic Sand or Rubber Slurry and are estimated outside the stated minimum coverage rates reflected on Product Data Sheets.

2.14 MIXING

A. Important: All products must be mixed according to the product data sheets prior to use.
   1. Mix two component materials individually before combining. Stir all materials thoroughly before use.
   2. Examine both Side-A and Side-B for graininess.
   3. Partial containers should not be stored longer than one or two days as exposure to atmospheric moisture induces cure.
   4. Keep containers covered whenever possible.
   5. For best results, power mix thoroughly for five minutes, scraping sides of container. Do not use mixer of more than 300 rpm. While mixing, keep blades down at the bottom and draw material from surface to avoid air entrapment. Do not move mixer blades violently up and down as this will cause air entrapment which may result in blisters and pin holes.
   6. Best results are obtained by pouring Side-B into Side-A while mixing.
   7. Polyethylene or polypropylene mixing containers are recommended, as they can be reused. Cured material is easily stripped out cleanly the following day.

B. If the product requires a catalyst, the best results will be obtained by pouring the catalyst into the product while mixing.

C. Mix only as much material as can be used within the specified pot life.

2.15 COLD WEATHER APPLICATION

A. During cold weather, special precautions must be taken in applying urethanes.
   1. These coatings should not be applied to surfaces 50°F (10°C) or colder.
   2. Store materials above 65°F (18°C), or warm to above 65°F (18°C) prior to use.
   3. If graininess is observed, warm the entire contents of the can to 60°F (16°C), and mix until smooth.
   4. Lower temperature and humidity may extend curing time.
   5. See cold weather recommendations in the Tech-Note Section on the PSI website.
   6. Make sure before application of coating that the surface is dry without any condensation.

2.16 HOT WEATHER APPLICATION

A. Product data on pot life and cure rate are provided for materials at 70°F (21°C). At temperatures above 70°F (21°C), pot life and cure time will decrease proportionately as temperature and humidity increase.

B. Store materials out of direct sun and mix only the amount that can be applied within the pot life.

C. Refer to Product Data Sheets for further information.

2.17 APPLICATION OF BASECOAT

A. All specified quantities are on an undiluted basis.
B. Better films are usually produced with less entrapped air. Apply product at a recommended rate as per System Specifications and Product Data Sheets. Water-catalyzed technology can be applied in higher thickness without any out gassing.
C. Apply PSI urethane in a uniform thickness without skips or holidays.
D. Basecoats can be squeegeed or rolled, depending on job type and size. Allow each coat to dry until tack free and sufficiently cured for foot traffic before applying additional urethane coating.
E. A period less than one hour to overnight may be required depending on drying conditions and the particular product used.
F. Extend each coat over cants and up vertical surfaces of pads, curbs, walls and parapets.
G. The top of curbs and equipment pads shall be similarly coated. In the case of walls and parapets, extend coating to the point where counter flashings enter the masonry.
H. Where no counter flashing is specified, hold the basecoats just short of the termination line at the edge of the deck to avoid seeping under masking tape or spilling on adjacent unprotected surfaces.
I. If the entire job cannot be carried through to completion without interruption, the interruption should occur after the first coat. This will provide protection for the system.
J. Coated surfaces must be clean and dry before work resumes.
K. Repriming may be necessary if subsequent coats are applied after passing the recoat window. To avoid repriming, broadcast aggregate to refusal into the basecoat when "thumb print tacky" and remove excess before applying the topcoat.

2.18 BROADCAST AGGREGATE

A. When P-Tuff Classic mixed material begins to gel, approximately 15 minutes after placement, broadcast 14-30 mesh rubber granules into the wet membrane to refusal. Normal usage is 20 lbs of rubber granules /100 sqft (0.98 kg/m2). Two top coats are required when utilizing rubber aggregates. Each top coat should be applied at a minimum of 100 sqft /gallon.
B. When broadcasting silica sand, allow membrane to thicken to a firm and sticky surface (approximately 30-45 min) when the sand will adhere but not sink into the base coat. The aggregate should be dry, washed, and rounded silica sand in the, 12-20, 16-30 or 20-40 mesh size (as required by customer specifications or as specified in systems specifications) and a 6.5 Moh's scale minimum hardness. Time for thickening to a firm sticky condition is dependent on atmospheric environments especially temperature and humidity. Allow coating to cure 2-4 hours before proceeding to subsequent coats.

2.19 APPLICATION OF TOPCOAT

A. Inspect the surface for damage prior to the application of topcoat.
B. Any surface damage must be repaired by replacing basecoat so that a continuous membrane in substantially uniform thickness covers the entire surface prior to topcoat application.
C. While careful color matching procedures are used, different batches of urethane may vary slightly in hue. This variation will be too slight to be perceptible if changes are made at natural breaks in the surface. Intermixing of batches may be necessary or desirable to ensure consistency in topcoat color. Always, retain a gallon or more of the previous batch. Number and color to blend in to the new batch to avoid any noticeable shading or hue differences. This procedure is noted as "boxing materials" in the field.
D. For improved slip-resistant surface, uniformly broadcast 14-30 mesh rubber granules (0.595 mm-1.41 mm) or 12 to 30 mesh washed, dry, rounded silica sand (0.595-1.68 mm) into the wet topcoat at a rate of 4 to 10 lbs. per 100

sqft (0.196-0.48 kg/m²). A mock up of the system is always recommended to be approved for color, aesthetics, appearance and functionality. Only authorized persons representing management or ownership should approve the finished mock up in writing.

2.20 CAUTION

A. Excessively heavy applications of urethane can cause pigment separation during drying, resulting in a blotched color.
B. Uniform application at the specified coverage rate is important to provide proper results.
C. Remove masking tape at edges of coating area as soon as the final coat of urethane is applied.
D. If removing the tape while the coating is wet, it will not be necessary to cut it off and this practice will avoid damage to the edge of the coating.
E. Space under the tape of rough surfaces can be wiped off with thinner while wet.
F. The following conditions must not be coated with PSI deck coating systems without the specific approval of PSI.
    1. On grade or below grade slabs.
    2. Split slabs with buried membrane.
    3. Sandwich slabs with insulation.
    4. Slabs over unvented metal pan.
    5. Suspended pool decks.
    6. Swimming pools.
    7. Magnesite or lightweight gypsum.
    8. Asphalt surfaces or asphalt overlays.
G. Floor hardeners may adversely affect the adhesion of the coating.
H. PSI coating systems should not be subjected to rising water tables or hydrostatic pressure on slab-on-grade applications.
I. If there is a question regarding a substrate, please contact a PSI representative.

Please read all information in the General & Safety Guidelines, Tech Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical properties. PSI warrants that its products, when properly installed by a state licensed waterproofing contractor according to PSI guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of 12 months. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.