

# **PLANT OPERATIONS PROCEDURE MANUAL**



## **Floor Care**

### **SECTION 4**

## FLOOR CARE

<b><u>FLOOR CARE</u></b> .....	<b>4-1</b>
<b>Floor Care Questions and Answers</b> .....	<b>4-2</b>
<b>Carpet Care (Extracting)</b> .....	<b>4-4</b>
<b>Carpet Care (Shampooing) Dry Foam</b> .....	<b>4-6</b>
<b>Carpet Care (Vacuuming)</b> .....	<b>4-8</b>
<b>Damp Mopping, Spot Mopping</b> .....	<b>4-10</b>
<b>Dry Mopping</b> .....	<b>4-11</b>
<b>Gymnasium Floor (Synthetic)</b> .....	<b>4-12</b>
<b>Machine Scrubbing (Buffer)</b> .....	<b>4-15</b>
<b>Machine Stripping (Buffer)</b> .....	<b>4-17</b>
<b>Refinishing Floors – Terrazzo, etc.</b> .....	<b>4-19</b>
<b>Refinishing Floors – Terrazzo Restoration</b> .....	<b>4-21</b>
<b>Refinishing Floors – Tile, etc.</b> .....	<b>4-22</b>
<b>Preparing For Refinishing Hardware Floors</b> .....	<b>4-23</b>
<b>Refinishing Floors, Hardwood</b> .....	<b>4-25</b>
<b>Spray Buffing</b> .....	<b>4-27</b>
<b>Wet Mopping</b> .....	<b>4-29</b>
<b>Wet Screening Method</b> .....	<b>4-32</b>

## **FLOOR CARE**

### **Questions and Answers**

1. Q: What causes darkening of floor in non-traffic areas and around edges and corners?  
A: This is caused by too many coats of finish in these areas. When applying finishes, keep 6 to 8 inches from baseboards or stationary furniture.
2. Q: Why is rubber tile yellowing?  
A: Exposure to sunlight or artificial light, build up of finish. After complete stripping and cleaning, reseal the flooring. This will minimize the problem.
3. Q: What causes streaking of finish on application?  
A: Careless application of finish, second coat of finish applied before the first coat has thoroughly dried, too much or too little finish applied. The use of a dirty mop or applicator. Always rinse floor clean before applying finish, always use clean mops. Be sure finish is dry between coats.
4. Q: The floor finish on new tile is tacky, soft, and scuffs excessively. Why?  
A: Plasticizer migration. The plasticizers used in manufacturing vinyl-bonded flooring provide flexibility and resilience. Plasticizers which remains active in the tile may make it tacky and will often soften the finish over it. While this problem may be slight or major, complete cure is difficult until migration stops. This may take a year or more. Sealing the floor using a good grade of sealer can prevent or minimize this problem.
5. Q: After stripping a vinyl tile floor and applying finish, the floor will powder off. What causes this?  
A: There are a number of reasons for this problem. Failure to apply a heavy enough coat, inadequate drying time between coats, inadequate removal of old finish or other residues before refinishing, failure to rinse properly, use of a non-buffable finish over a buffable finish.
6. Q: The finish is worn off in traffic lanes. How can I minimize this problem?  
A: Clean and rinse the floor thoroughly, touch up work area with the same finish used on rest of floor. It is not necessary to redo the entire floor as the finish will blend in. Touch up traffic lanes as needed, more frequently than the rest of the floor. Position walk-off mats at entrances as required.
7. Q: When water is spilled on floor it turns a white, milky color. Why?  
A: Insufficient rinsing of cleaner prior to application of finish, use of inferior finish, use of mop containing stripper or cleaner residues. Rinse thoroughly before applying any floor finish. Do not spray buff with soap-containing materials. Use only mop reserved for applying finishes only.

8. Q: On wooden gym floor, sealer is peeling off. What could be the problem?
- A: Improper preparation of floor before application of sealer, such as failure to remove sweeping oils or wax residues, failure to roughen gym floor before application of sealer. Gym floor must be sanded or screened and completely cleaned before attempting to apply sealer or finish.
9. Q: Our terrazzo floor should be white in color but has been turning yellow. What can be done to correct this problem?
- A: Could be faulty installation, generally because the concrete or terrazzo dried too rapidly or was improperly mixed. The main cause in most cases are the use of waxes and finishes that are not designed for terrazzo flooring. Strip the floor using hot water and stripper, rinse floor several times, and be sure all old finishes are removed. Then seal floor using a good grade of sealer designed for terrazzo flooring.
10. Q: Some areas in our building has unpleasant odors. What can I do to eliminate these smells?
- A: Many unpleasant odors are caused by the growth of bacteria such as in rotting of food, deposits from urine, perspiration, etc. Other odors are people-related such as tobacco smoke, cooking odors, and medications. If possible, try to find the source of odor and clean the entire areas with a disinfectant cleaner and a pressurized disinfectant spray. Clean toilet bowls with a disinfectant cleaner. Maintain these areas on a regular basis.

## **CARPET CARE (EXTRACTING)**

Includes all cleaning and extracting associated with the maintenance of carpet; i.e., classrooms, dining rooms, media centers, multi-purpose rooms, removing furniture, chairs, desks, cabinets, vacuuming carpets to remove dirt and debris before extracting.

### **Purpose**

To remove spots and stains, deep down dirt and grit from carpet, reduce indoor air quality, restore carpet and to maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

Commercial type upright vacuums equipped with clean filter bag; carpet extractor size 7 gal. - 28 gal. Depending on area to be cleaned (can be electrically or battery operated); putty knife; cleaning chemicals; extraction; pre-sprays, spot/stain remover and chewing gum remover; defoamer (use for excessive foam).

### **Safety Precautions**

1. Check equipment for damage; i.e., cords, plugs, brushes, switches (electrical machines).
2. Do not leave equipment unattended while plugged into electrical source.
3. Operate machine away from cord, keep from running over it.
4. Mix chemicals according to label directions. Use chemical dilution stations for proper dilution ratios.
5. Do not overfill tanks.
6. Use clean warm water.
7. Be sure carpet is completely dry before attempting to place furniture. Metal glides will leave rust spots.
8. Do not pull on cord to unplug equipment. Walk over and grasp the cord end (plug).
9. For large battery operated equipment be sure batteries are properly charged.
10. Check fluid level in batteries and fill if needed. Be careful not to spill on floor.
11. Refer to operators manual for proper use and safety precautions.

## Procedures

1. Remove furniture from area if possible. Assemble all necessary equipment/materials and take to area. Extraction should be kept to a minimum. Use only when necessary. Check with building supervisor.
2. Vacuum carpet thoroughly using heavy duty commercial type vacuum with beater bar brush to remove all loose dirt. Pick up large objects by hand, dust brush and dust pan.
2. Remove chewing gum using gum remover and putty knife. Remove spots and stains using shampoo solution in spray bottle, and/or spot and stain remover in aerosol can. Follow directions on label.
3. Fill tank with carpet cleaning solution and warm water being careful not to spill solution over electrical switches located on machine. Secure caps/lids tightly on tanks.
4. Start extraction procedure on side of room along wall area. Set switches to (on) positions (solution, vacuum, forward). On large size machines the operation of the machine is forward. The units are self-propelled. On smaller models the operator will pull the machine backwards. Read and understand the manuals. You may want to call Plant Operations for assistance.
6. There will be some small areas that the machine cannot get into. Extractors will have a connector designed for the use of hand held attachments, wand, power head and hoses. Park the machine outside of the room and use the hand held equipment to clean the carpet. This equipment should also be used to clean along baseboards and other areas close to the wall.
7. Because extractors operate with pressure jets located under the machine, the solution is forced into the carpet under pressure which forces the embedded dirt and other residue up to the vacuum shoe for pick up. In some cases it may be necessary to add approximately 3 - 4 oz. of defoamer/foam break, to the pick up solution tank to keep the foam to a minimum.
8. Today's extraction machines are designed to recover approximately 90% of the liquid solution from the carpet. This means 10% of the liquid will remain in the carpet which could cause indoor air quality problems; mold and mildew can grow on carpet. To help reduce this problem, you must have air movement through the area. This is important on days with high humidity levels. Use fans, turn air handling units on and/or air conditioning, and run machine over floor a second time with solution switch off and vacuum pick up on and remove as much excess moisture as possible.
9. Return all equipment to proper storage area, thoroughly clean equipment, both tanks, wipe excess liquids from machine, wipe off cords and store. Connect charger to battery operated models in well ventilated area. Empty vacuum bags.

## **CARPET CARE (SHAMPOOING)**

### **Dry Foam**

Includes all cleaning and shampooing associated with the maintenance of carpeted areas; i.e., classrooms, entrance ways, hallways, media centers, multi-purpose areas, etc. Removing furniture, removing stains, dust and debris from carpet using dry foam carpet equipment. Use this method when carpeted area has to be used within three to four hours of shampooing.

#### **Purpose**

To maintain the carpet, reduce indoor air quality, preserve the carpet, maintain a clean and safe environment for staff, students and visitors.

#### **Equipment and Materials Needed**

Commercial type vacuums; carpet shampooer (Von-Schrader) designed for dry foam use only; plastic bucket with pour spout; measuring cup; putty knife; spot cleaning chemicals, i.e., carpet prespray, gum remover, stain and spot remover, etc.; dry foam shampoo; defoamer chemical.

#### **Safety Precautions**

1. Check equipment for damage; i.e., cords, plugs, brush, tank.
2. Do not leave machine unattended while plugged into wall receptacle.
3. Operate machine away from cord, keep from running over it.
4. Use chemicals according to label instructions. **Do not mix chemicals.**
5. Be sure carpet is dry before attempting to place furniture. Metal glides will form rust spots.
6. Do not pull on cord to unplug equipment. Walk over and grasp the cord end (plug).

#### **Procedures**

1. Move furniture from area if possible, and out of the way. Assemble all necessary equipment and materials and take to area.
2. Vacuum carpet thoroughly using heavy duty vacuum with beater bar/brush to remove all loose soil.
3. Remove chewing gum using gum remover spray and putty knife to scrape off. Remove spots or stains with shampoo solution in spray bottle and/or spot and stain remover in aerosol can designed for this purpose. Follow directions on label.

4. Mix shampoo according to label directions found on container, in plastic bucket. Use warm water only (hot water may cause the carpet to shrink).
5. Fill solution tank on machine being careful not to spill solution down over electrical switches on machine; fill defoamer tank. Do not overfill the tanks. Secure caps tightly on tanks.
6. Place machine on carpet, adjust brush height so that the brush touches the top of the carpet pile. Generally, the brush should be raised on deep pile carpeting and lowered on short pile carpeting.
7. Turn switches on (brush and vacuum) move forward with a slow steady pace. Generate foam continuously as you move forward. If pace is correct, there will be little, if any, foam left on the carpet or deposited at the edges of the machine. Be sure to overlap on the adjacent pass. If carpet is extremely dirty, go over the carpet a second time on a slanted angle.
8. After carpet is completely dry, use upright vacuum and vacuum carpet. This will remove any carpet shampoo residue and loose soil left on the carpet. Replace all furniture to proper place. If humidity is high, use fans and/or air conditioner to help the drying process.
9. Return all equipment to storage area. Clean machine tanks with clean water, wipe off cord and surface of machines with damp rag/sponge, wipe dry, wrap cords and store in proper place.

## **CARPET CARE (VACUUMING)**

Includes vacuuming, spotting, removing gum, candy and other debris, removing stains, and choosing proper vacuums/equipment.

### **Purpose**

To maintain the carpet, reduce indoor air quality, preserve the carpet, maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

A commercial upright carpet vacuum with revolving brush and beater bar (single motor) and equipped with cloth bag and micro-lined inter bag (commonly referred to as a single motor upright). A commercial upright carpet vacuum with revolving brush (separate motor) and enclosed bag chamber equipped with micro-lined filter bag and separate motor (commonly referred to as a two motor upright). A commercial type upright vacuum with revolving brush (separate motor) and enclosed bag chamber equipped with micro-lined bag and two motors for vacuum pick up (commonly referred to as a three motor upright). A commercial type tank vacuum (wet/dry) equipped with filter bag, carpet tool and attachments. A commercial type back-pack type vacuum equipped with carpet tool and attachments.

### **Safety Precautions**

1. Check equipment for damage, cords, plugs, brush, and filter bags (empty at end of shift).
2. Do not attempt to remove water, food or any liquids using a dry type vacuum.
3. Do not stand in wet area while inserting an electrical plug into wall receptacle.
4. Disconnect machine from electrical source before servicing and/or leaving machine unattended.
5. Use tank type vacuum designed for wet pick up when vacuuming any type of liquids.
6. Do not pull on the machine cord when unplugging from wall receptacle. Walk over and grasp the plug.
7. Be aware of falling dust/dirt particles when using overhead vacuum attachments. Use eye protection (safety glasses).
8. Vacuum away from cord. Avoid running over cord which would damage cord and cause electrical shock.

## Procedures

1. A carpet needs regular cleaning and maintenance daily. More frequent cleaning is desirable on heavily traveled area; i.e., entrance area, walk off mats, offices. Selecting the proper vacuum for the cleaning area is very important. For small areas such as offices and areas that are cluttered with furniture that cannot be moved easily, the best method would be to use a small upright (one motor) vacuum or a back-pack vacuum equipped with carpet tool and hand held wand.
2. For medium size areas such as classrooms, media centers and areas that are not cluttered with furniture, the use of a two motor upright vacuum should be used. These machines are available with turbulator brush sizes from 14 in. – 18 in. They are designed for one pass vacuuming (not push and pull) with vacuum head adjusted to the proper height. Push it forward like mowing your lawn, go as far as possible then turn and push the machine back, overlapping the first pass slightly. The use of vacuums equipped with turbulator brushes are necessary for beating the dirt from the carpet fibers and thus being pulled up into the vacuum bag.
3. For large areas such as dining rooms, corridors and multi-purpose areas, the use of a three motor upright vacuum should be used. These machines are equipped with a large turbulator brush in sizes ranging from 24 in. – 30 in. They are designed for one pass vacuuming only. Adjust the turbulator brush to the proper height and go forward as far as possible. Return, overlapping the first pass slightly using same procedures as described in paragraph #2.
4. Wet/dry vacuum (tank type) equipped with wand, filter bag and carpet tool should be used on areas which are inaccessible to the upright vacuum machines. Can be used for the removal of dirt and debris close to walls, tight corners, etc.

After vacuuming is completed, check floors for stains and remove as necessary. Empty all filter bags, wrap cords, wipe off machine and store in proper place.

## **DAMP MOPPING**

Damp mopping is a procedure that is used to remove surface dust/dirt. A good example would be entrance ways, off set area around doors, conference rooms, teacher's room, and offices. When damp mopping, the mop should be dipped into the solution and then placed in the wringer, and the solution pressed out thoroughly. Don't saturate the floor with water. Use the same motions in this procedure as are mentioned in wet mopping.

## **SPOT MOPPING**

Spot mopping is a procedure used when a small area is soiled by spillage such as water, soda, coffee, tea, urine and/or other liquids. These types of spillage must be mopped up as soon as possible to prevent slipping and falling hazards.

## **DRY MOPPING**

### **Purpose**

To remove dust, litter and light soil from a smooth fished floor; i.e., tile, terrazzo. This operation should be performed after hand dusting has been completed and prior to wet mopping or buffing.

### **Equipment**

Utility cart, dust pan, counter brush, sweeping tool, chemical treatment.

### **Safety Precautions**

1. Never leave piles of dirt and trash in any area.
2. Always read chemical labels.

### **Procedures**

1. Loose dirt and trash are removed from the floor by using a treated mop. The dust mop is attached to a metal frame with either a wooden or plastic handle. Dust mops are available in several sizes: 18 in., 24 in., 36 in., 48 in., and 60 in. The 18 in. and 24 in. are the standard sizes for classroom cleaning. The 36 in., 48 in., and 60 in. are ideal for larger areas such as hallways and cafeterias. The dust mop must be treated/sprayed with a mop treatment the day before it is to be used. (This is very important.) This will allow the mop to absorb the treatment. If the mop were to be used prior to this, it would streak the floor and cause the floor to become very slippery.
2. Starting on the far side of a room or area, push dry mop along the wall to the back of the room or area. Then turn mop and push dirt to front of room or area. Next, if possible, move the row of desks over to the cleaned area. Then repeat this procedure until the floor is completely cleaned. Push the dirt from the room or area until you pick it up. Remember you are working with a dust mop, not a push broom. Always keep the mop on the floor.
3. Clean dust mops after each use. Go over the mop head with a stiff brush to remove the dirt and dust. When the dust mop head gets too dirty, they can be washed in a washer and dried.

## **GYMNASIUM FLOOR (SYNTHETIC)**

Includes all cleaning and maintenance associated with the upkeep of floor; i.e., dust mopping before and after athletic events, using automatic scrubbing machines to strip and refinish, emptying of waste, cleaning bleachers, walls, doors, windows, etc.

### **Introduction**

Urethane synthetic surfacing is a durable material, capable of withstanding much use and abuse. Virtually the entire spectrum of athletic activities including events such as dances, meetings and concerts can be conducted on this type of surface. Spiked or cleated shoes should be prohibited to avoid possible physical damage to the surface. Synthetic surfacing is subject to wear if dirt and other foreign materials in combination with foot traffic are not routinely cleaned. To facilitate this cleaning plus add to the appearance and life of the floor, a floor sealer and finish should be applied on a scheduled basis.

### **Purpose**

To maintain and preserve floor surface, and to maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

Automatic scrubbing machine; wet mops, mop buckets and wringers; 60 in. dry mop with frame and handle; dust brush and dust pan; broom; detergent; stripper; sealer and finish; stripping pads/scrubbing pads; disinfectant detergent; window cleaner; rags; sponge; heavy duty extension cord.

### **Safety Precautions**

1. Check all equipment for damage; i.e., cords, plugs, brushes, driving assemblies and switches.
2. Do not leave any equipment unattended while plugged into electrical source.
3. Operate machine away from cord, keep from running over it.
4. Use chemicals according to label directions. Do not mix chemicals for any reason.
5. Do not use sandpaper, steel wool, abrasive powders, soap containing lye or solvents.
6. Use chemicals; i.e., detergents, sealers and finishes specifically designed for use on synthetic flooring surfaces.

7. Never use acid or caustic based cleaners on surface.
8. Do not allow foot wear containing nails, cleats, or spikes on synthetic floors. This is sure to damage the floor.

## **Procedures**

1. For daily cleaning use a 60 in. dust mop and go over the entire floor surface. Any spilled liquids should be picked up using a clean wet mop. Pick up dirt and debris with dust brush/broom and dust pan and discard into waste container. Check floor surface for any damage; i.e., peeling of finish, dark stains, separation of surface, etc. Report to supervisor.
2. Clean all doors and door handles/bars using a disinfectant and sponge. Clean window in doors using window cleaner and soft rag/paper towel. Remove unsightly graffiti from walls and other surfaces using detergent and/or graffiti remover and stiff bristled brush. Rinse surface with clean water and sponge.
3. Check complete area for any damage before leaving. Turn off all lights and lock all doors. Return all equipment to storage area. Clean mops, buckets, etc. using hot water and detergent, dry and store.
4. The floor will need to be cleaned from time to time. Use a cleaner designed for use on synthetic floorings. Mix solution with warm/cold water, fill tank on automatic scrubber and go over floor. The machine is equipped to lay solution down and scrub using light scrubbing pad and/or brushes and then pick up dirty solution by means of a vacuum built into machine. Rinse the floor several times. This detergent should not attack the floor finish and should leave the floor shiny and bright.
5. Synthetic floors will need to be stripped, sealed and refinished. This flooring is completely the opposite of wood gym floors. The removal of finishes are achieved by using a stripper solution and water and should be accomplished on some type of schedule; i.e., when area is not being used for several days, summer breaks, holidays.
6. The use of large automatic scrubbing machines are recommended for stripping, scrubbing and buffing. These machines are powered by large wet celled batteries. The machine must be fully charged for best results and operation. All detergents must be used at the proper dilution rate (found on label of container) at all times.
7. For stripping of old finishes, fill solution tank on machine with diluted stripper and hot water. Do not overfill tank. Lay solution liberally on the floor with machine (do not turn vacuum switch on). For best results strip floor in sections. Large gym floors could be 30 ft. X 30 ft. or more. Let solution lay on floor for 3 – 5 minutes. This will allow the stripper solution ample time to soften the old finish and dirt.

8. Next, turn on brush, pump and vacuum switches and run machine over the wetted floor. Use stripping pads for this procedure. After the floor is completely stripped of old finish, it will have to be rinsed thoroughly with clean water. Be sure there is no residue left on floor. Repeat the rinsing two to three times for best results.
9. After stripping procedure is complete and floor has had sufficient time to dry, the floor will need protective coatings applied. The first coating should be a sealer coat. Be sure the sealer is designed for use on synthetic flooring surfaces. The best recommendation I can give is to read directions on label. In most cases, but not all two coats are recommended. The same is also true for the finish coats (or top coat). Some manufacturing companies may recommend triple coats in high traffic areas.
10. The use of wet mops, wax applicator or spraying device can be used for the purpose of applying the sealers and finishes to the flooring surfaces. These protective coatings can be buffed between applications if necessary.
11. Clean all equipment with hot water and detergent. Wash tanks on automatic machines. Do not let solutions remain in tanks over night. Wash pads and let dry. They can be used again. Clean mops, buckets, brushes and let dry. Return all equipment/materials to proper storage area.

## **MACHINE SCRUBBING (BUFFER)**

Includes light scrubbing to remove heavy soils, light floor finishes, spills and stains.

### **Purpose**

To use machine scrubbing when dirt and spills cannot be removed by wet mopping only. To clean and restore floor area and prepare floor for light refinishing and to maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

Floor buffer 15 in. – 22 in size (green pads); wet mop buckets and wringers; broom and/or dust mop 18 in. – 60 in. (depending on size of area); wet floor caution signs; wet/dry vacuum tank type (with filter bag removed) and wet pick up attachments; dust pan and dust brush; detergent; rubber gloves; sponge; putty knife.

### **Safety Precautions**

1. Always put out caution signs.
2. Check electrical cords for breakage or frayed wires. Be sure cords are equipped with ground prong.
3. Always sweep floors and pick up dirt and debris.
4. Always keep cord behind you when operating buffer.
5. Machine scrub floor only when necessary.
6. Remove all furniture before starting the scrubbing procedure or shift to one side.
7. Always remove filter bag from wet/dry vacuum before picking up wet solution.
8. Always check extension cords. Be sure they are the same size or larger.

### **Procedures**

1. Assemble all necessary equipment/materials needed in an area close to the work area. Remove all objects from the area if possible; i.e., desk, chairs, furniture and file cabinets.
2. Clean all of the loose dirt, debris, gum, tar, and candy from floor using putty knife, dust mop, broom and dust pan. Discard debris in waste container and place caution wet floor signs.

3. Prepare detergent solution according to label instructions. Using a dilution station will automatically dilute the detergent. Use warm water if possible.
4. Spread detergent solution liberally on the floor, but without (flooding) too much water which may loosen the tiles. Use approximately a 10 ft. X 10 ft. section at a time using a clean wet mop. Let solution lay for approximately three minutes to loosen heavy dirt.
5. With the proper size scrubbing pad on the floor buffer you are ready to start the scrubbing procedure. Move the machine slowly but continuously using a side to side motion and overlapping slightly with each pass of the machine. Floors that are pitted or dented should be scrubbed in a crisscross motion. If floor is extremely dirty, this procedure may need to be repeated.
6. Dirty solution can be removed from floor using a wet/dry vacuum with filter bag removed. Wet mops can also be used to pick up dirty solution. Once the dirty solution is removed, check the floor to be sure it is free of all dirt, stains, etc. If not, repeat the scrubbing procedure again.
7. Once the floor is scrubbed clean, it will have to be rinsed properly. Use a clean wet mop (not the one used for detergent). Clean mop bucket and wringer, lay clean water on the floor and pick up using wet/dry vacuum and/or wet mop. Change water often. You may have to repeat this procedure at least three times. The best way to check the floor for residue after it has dried is to simply wipe your hand across the floor in several places. If you have any residue on your hand, it needs more rinsing. Clean all baseboard with sponge and/or rags. Use rubber gloves.
8. Clean all equipment and tools thoroughly with hot water and soap. Rinse and dry. This will enable the next job to run as smoothly as the first.

## **MACHINE STRIPPING (Buffer)**

Includes the stripping of old finishes, heavy ground in dirt, black scuff marks, removal of objects from work area; i.e., desk, chairs, furniture, files, etc.

### **Purpose**

To remove old floor finishes, embedded dirt, spills, stains, and to prepare floor surface for refinishing, and to maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

Floor buffing machine, stripping pads (black), wet mops, mop buckets, wringers, putty knife, dust pan, dust brush, house broom, caution signs, wet/dry vacuum tank type with wet pick up tool, and slip resistant footwear.

### **Safety Precautions**

1. Always put out caution floor signs.
2. Check electrical cords for breakage or frayed wires. Be sure cord plug has ground prong.
3. Always keep cord behind you when operating the machine. This will keep the cord from wrapping around driving assembly. This could damage cord and cause electrical shock.
4. Move furniture from area before starting the stripping procedure or shift to one side.
5. Always remove dirt, gum, candy, and other debris from floor before wetting the floor with stripper solution.
6. Strip small sections at a time and don't let stripper dry on floor.
7. Always wear appropriate slip resistant footwear supplied by Plant Operations.
8. Do not allow unauthorized foot traffic on the floor during stripping procedures.
9. Always use proper size driving assembly on machine.

### **Procedures**

1. Assemble all necessary tools, equipment and chemicals needed in an area close to the work area for easy access. Remove all objects from the work area if possible; i.e., desk, chairs, furniture, file cabinets.
2. Clean all of the loose dirt, debris, gum, tar and candy from the floor using putty knife. Use dust mop, broom and dustpan. Discard debris in waste container.

3. Prepare stripping solution according to label instructions using a dilution station. The stripper will automatically be diluted for you. Use hot or warm water for best results.
4. Lay down stripper solution liberally on the floor approximately a 10 ft. X 10 ft. section at a time using a wet mop marked for stripper use. Let stripper remain for at least 3 – 5 minutes to loosen finish. (Very old or heavily built-up finishes may require repeated applications.)
5. With a proper size stripping pad on floor buffer machine, you now start the stripping process. Move machine slowly but continuously using a side to side motion and overlapping with each pass of the machine. Floors that are pitted or dented should be stripped in a crisscross motion.
6. Dirty solution can be removed from floor by using a tank type wet/dry vacuum with filler bag removed. Wet mops can also be used to pick up dirty solution. Once the dirty solution is removed from the floor check to be sure it is free of wax build up and dirt. If not, repeat the stripping procedures again.
7. Once the floor is completely free of old finishes and black heel marks, it must be rinsed several times. Use clean water for this procedure, use clean wet mop (not the mop used in stripper). Lay water liberally on the floor and pick up with tank type wet/dry vacuum and/or wet mops. Change rinse water often. Clean cove base with sponge. Use rubber gloves.
8. Clean all equipment and tools thoroughly with hot water and soap, rinse and dry. This will enable the next job to run as smoothly as the first.
9. After the stripping and rinsing procedures are completed, the floor is now ready for a coating of sealer/finish. This is explained in Section 4 Refinishing floors – vinyl tile, rubber tile, fritz tile, asphalt tile and linoleum.

## **REFINISHING FLOORS**

### **Terrazzo, etc.**

Includes the sealing and refinishing of non-resilient tile floors such as terrazzo, magnesite, marble, slate, ceramic, quarry tile and brick.

#### **Purpose**

To protect the surface of the flooring from dirt debris, stains and to maintain a clean and safe environment for staff, students and visitors.

#### **Equipment and Materials Needed**

A good grade of water-emulsion sealer designed specifically for non-resilient floorings, one wet mop head (clean or new), one wax applicator (clean), mop bucket and wringer, caution wet floor signs.

#### **Procedures**

1. Floor should be cleaned and/or stripped of old build up of finishes, dirt and other debris.
2. Allow floor to dry thoroughly before applying finish.
3. Always use a clean or new mop head and/or applicator when applying finishes.
4. Use a clean mop bucket and wringer. If rusted or broken, replace it because particles will fall into finish.
5. Apply the finish in uniform, light to medium coats. Be careful not to slap the walls with the mop head. Stay six to twelve inches from walls. No one walks against the walls and heavy build up of finish will occur.
6. Change the direction of your strokes on each coat of finish to insure complete coverage. Allow sufficient drying time between coats, approximately 30 minutes. **Do not rush a floor finish.** Three coats of finish/sealer on a stripped floor is recommended for good durability and protection.
7. If using wet mop to apply finish, start on one side of the area. Stand with feet about 4 ft. apart and swing mop from side to side in an S motion.
8. If using wax applicator, fill tank with finish and start on side of room/hallway. Squeeze solution trigger and release finish onto floor. Pull applicator as you walk across the area. The pads on applicator will spread the finish on the floor. While pulling the applicator

across the floor it will be necessary to squeeze the solution trigger from time to time to release more solution to the floor. The use of this applicator will make the finishing procedure much faster and easier.

9. Clean and put away all equipment, wash mops and wax applicator with hot water and rinse.
10. Unused portions of finish should be discarded. **Do not pour back into container.**

## **TERRAZZO RESTORATION**

1. Remove all build up on cove base, edges, and corners. You will use citrus paint and varnish remover. Apply a coat to all surfaces. Let set 15 to 20 minutes. Do not let it dry. Remove by scraping with a putty knife. After build up is removed, rinse all areas.
2. To do the floor the equipment you need a buffer, black stripping pads, red buffing pads, 80 grit sanding screens, Hot Shot stripper, Ultra Stripper booster, marble polishing compound, One Step stone care solution, wet mops, buckets, wringers, and wet/dry vacuum. Always wear stripper shoes.
  - a. Prepare your solution mix Hot Shot stripper 8 oz. to 10 oz. to one gallon of water (warm or cold). Then add 16 oz. of Ultra Strip per booster. Put solution on floor 10 ft. by 10 ft. areas letting it sit at least five minutes. Run buffer with black pad & 80 grit screen over 10 ft. by 10 ft. area. Use the same method as stripping procedures. Vacuum up stripping solution. If all the wax or sealer is not removed, repeat process. After area is free of wax or sealer, do the same process for the entire area to be done. Rinse the entire area so there is no stripper residue.
  - b. To polish and treat the terrazzo, wet down a 6 ft. by 6 ft. area with water. Put one scoop of marble polishing compound in the center of the 6 ft. by 6 ft. area using the buffer with the red buffing pad. Buff the 6 ft. by 6 ft. area. If it starts to dry out, add clean water to keep wet. This solution will look like muddy water. Vacuum up muddy solution and rinse.
  - c. After the entire area is rinsed and dry, you will use the One Step solution. This process is the same as spray buff method. One spray of mist will do a 2 ft. X 2 ft. Buff it out with a red pad. This will bring out a high shine.
  - d. Clean up all equipment.

## REFINISHING FLOORS

### Tile, etc.

Includes the sealing and refinishing of resilient tile floors, such as vinyl tile, rubber tile, fritz tile, asphalt tile and linoleum.

#### **Purpose**

To protect the surface of the flooring from dirt and debris and to maintain a clean and safe environment for staff, students and visitors.

#### **Equipment and Materials Needed**

Good grade of water-emulsion floor finish/sealer designed for resilient floorings, one fine strand mop (clean or new), one mop bucket with wringer, caution wet floor signs, wax applicator.

#### **Procedures**

1. Floors should be cleaned and/or stripped of old build up of finishes.
2. Allow floor to dry thoroughly before applying finish.
3. Draw required amounts of finish into clean mop bucket.
4. Wet the mop head in the finish. Mop head should be wrung fairly dry so that when lifted, finish does not drip steadily. If a white film is formed immediately as the finish is applied, then too much is being put down and the mop should be wrung or pressed out more.
5. Allow the floor to dry approximately 30 minutes before applying the second coat of finish. Do not attempt second coat if first coat is not completely dry.
6. Apply no more than one coat of finish within six to twelve inches of walls and permanent fixtures or other areas where one cannot walk.
7. Because a new finish dries with good gloss and a smooth finish, buffing the floor is not necessary.
8. After floor is completely dry, rearrange furniture being careful not to drag objects across floor.
9. Clean and put away all equipment, wash mops and/or wax applicator with hot water and rinse.
10. Unused portions of finish should be discarded. Do not pour back into container.

#### **Note:**

If using wax applicator, fill tank with finish and start on one side of room. Squeeze trigger and allow small portion of finish on floor, walk across the floor pulling the applicator. The pads on applicator will spread the finish on the floor. While pulling the applicator across the floor, you will have to squeeze the solution trigger from time to time. The applicator will make the finishing procedure faster and easier.

## **PREPARING FOR REFINISHING HARDWOOD FLOORS**

Includes all cleaning and sanding associated with the gymnasium such as dust mopping, removing gum, tar and other debris from floor before sanding/screening, using tack rags to remove dust and painting lines in the basketball court.

### **Purpose**

To prepare gym floor for resealing, line painting and preservation of floor.

### **Equipment and Materials Needed**

Floor buffing machine (17 in. - 22 in. size) equipped with pad holder; tank type wet/dry vacuum with cloth/paper bag installed and dry pick up attachments; 60 in. dry mops, mop bucket and wringer; heavy duty extension cords; sanding screens (17 in - 22 in, 100 - 150 grit); latex paint in assorted colors - red, black, blue; putty knife; broom; dust pan; masking tape; dust mask; 17 in - 22 in. pad; turkish towels.

### **Safety Precautions**

1. Check machine cord for breakage. Be sure cord ends are equipped with ground prong.
2. Operate machine away from cord and keep cord behind you.
3. Use low speed machine, 175 rpm.
4. Do not use steel wool pad on floor machine when screening.
5. Wear dust mask when screening and picking up dust.

### **Procedures**

Resurfacing takes time, therefore, plan ahead and try to do it during summer vacation, holiday periods or other times when the gym will not be used for a week or so.

Assemble all equipment, tools and materials and take to gym area. Put bleachers in place along walls.

#### **1. Removing soil**

Sweep up all litter and debris and check every square foot for traces of gum, candy, tar and any other substances which can clog the pad on the floor machine (buffer). Use a putty knife to scrape up gum and other adhering soils. Pick up all debris and discard into waste container.

## 2. Scouring

Generally, a team of three people can scour 800-1,000 sq. ft. per hour. Scouring time is affected by dampness on the floor, humidity, the size of the floor machine, and the area of finish to be removed.

Equip the floor machine with a driving block equipped with pad to hold scouring pad to the floor. Be sure to center both pads on the driving block. When scouring the floor, keep the machine level. Doing this will keep the scouring pad from digging into the wood. Only the surface of the old finish must be scoured in order to make a good base for the new finish. Coatings, keep the machine moving at a constant pace. Do not stop the floor machine in one spot while it is running. This will cause uneven spots and swirls on the floor.

Work a small area at a time. Turn scouring pad over when it becomes clogged. Scour along the boards with the grain. Edges, corners and around doors will have to be done by hand. Use scouring pad cut to size and attached to doodle bug pad holder.

## 3. Removing dust

Use tank type wet/dry vacuum to pick up loose dust, then use clean water and mop bucket with wringer. Dip mop into water and wring out as dry as possible. Damp mop the floor only, do not saturate the floor. Change water often. This procedure will have to be repeated several times.

## 4. Tacking

The next procedure will be the tacking of the floor to remove any dust that may not have been picked up with the wet mop. Before you begin tacking the floor be sure the doors are shut and the air movement is stopped. You want all the dust to settle and then tack the entire area.

Tack rag the floor using large dust mop (5 or 6 ft.) with a turkish towel that has been dampened with clean water. (The best way to dampen the towel is to emerge into mop bucket with clean water and use wringer and press out as much water as possible.) Then drape the towel over the dust mop and go over the floor. Prepare five or six towels ahead. You will have to change them from time to time.

Remember to keep the water in the mop bucket clean. The tacking procedure will have to be repeated several times. Check the painted lines for damage and repair using masking tape and same colors of paint (if possible). If all the lines need attention, you may wish to call Plant Operations for assistance.

## 5. Clean and store equipment

Return all equipment/materials to storage area. Wash and clean using soap and warm water, rinse, and dry. Clean dirt and dust from floor machine with damp rag/sponge. Wipe down electrical cords and check for breakage. Clean all pads with soap and water and hang to dry. If scouring pads are worn, discard in trash container.

## **REFINISHING FLOORS HARDWOOD**

Includes sealing and refinishing of hardwood floors after it has been cleaned, scoured and prepared. This would include gym floors used for athletic events; i.e., hard maple and oak.

### **Purpose**

To protect the surface of the flooring from dirt, grit, debris, and prolong the life of the floor and to maintain a clean and safe environment for staff, students and visitors.

### **Equipment and Materials Needed**

A good grade of water-based urethane finish designed specifically for wood floors (should meet or exceed M.F.M.A. standards), wax/finish applicator in a good and clean condition, and caution wet floor signs.

### **Procedures**

1. Assemble all necessary equipment and materials needed and take to gym area.
2. Place caution wet floor signs at entrance to gym.
3. Gym finishes in most cases will be a one part system. This means that you will not have to mix the two chemicals together. You must read directions located on the labels.
4. The floor must be free of all dust, dirt, scuff marks, and other debris before any finish can be applied.
5. If using wax/finish applicator, fill the tank with the mixed sealer/finish and start on one side of floor. Squeeze solution trigger and release sealer on floor in front of applicator. As you walk across the floor, the applicator will spread the sealer. From time to time squeeze the trigger and let out more sealer.
6. Gym floors require two coats of finish/sealer for best results. On the first coat go with the grain. Let floor dry completely, approximately one hour. Do not use fans to dry the finish. This may blow dust and/or other debris onto finish. Finish may appear dry, but may not be completely cured. It is best to wait before applying the second coat.
7. When applying second coat, go across the grain. This will insure that the floor has been completely sealed.
8. Keep traffic off newly sealed floor for at least three days. Use walk off mats at entrances.

9. Clean and put away all equipment. Wash pads, mops and applicators with soap and hot water and rinse.
10. Unused portions of sealer/finish should be discarded. **Do not pour back into container.**

## **SPRAY BUFFING**

### **Purpose**

To maintain the quality of appearance. Also, it is good for spot maintenance of floors before they reach the point of needing a major refinishing. Spray buffing is the basic method for maintaining resilient floors.

### **Equipment and Materials Needed**

Floor buffer; pad holder; buffing pads; broom or dust mop; putty knife; spray bottle and trigger; floor finish; dust pan and brush; wet floor signs.

### **Safety Precautions**

1. Always sweep floor and remove any gum, etc.
2. Post wet floor signs.
2. Do not use extension cords if they are not needed for the area. If extension cords are needed, make sure they are the same size as the buffer cord.
3. Always make sure the cords are free of breaks and that the plugs are grounded “to prevent an electrical shock.”
4. Never unplug cord by pulling on the cord.
6. Read labels on floor finish before mixing.

### **Procedures**

1. Assemble equipment to take to work area.
2. Remove furniture as needed.
3. Set up wet floor signs.
4. Sweep floor, pick up any trash, etc.
5. Damp mop if needed.
6. Prepare floor finish in spray bottle.
7. Spray a light mist on the areas where black marks, spots, scuffs or scratches appear in the path of the buffer. When using a spray bottle, spray the finish upward into the air so that a mist falls on the floor in front of the buffer.

8. Buff the same area until the soiled or damage is removed and the shine appears. The machine will move freely at first, then the area will become tacky or sticky before the shine reappears.
9. Continue this procedure until area is repaired or shining. If area is too damaged, you might lightly scrub the area and apply a thin coat of finish. Check with supervisor before adding finish.
10. After area is completed, remove pads and pad holder to be cleaned. Never let machine set on brushes and/or pad holders. Clean off equipment and return to storage.

## **WET MOPPING**

### **Purpose**

To insure maximum cleanliness, to improve sanitation of the environment, aid in the control of bacteria and for a neat appearance of the area.

### **Equipment and Materials Needed**

Mop buckets, wringers, wet mop heads, wet mop frame/holders with wooden/plastic handled, caution/wet floor signs, push broom, house broom, dust mop with frame and handle, dust pan, dust brush, putty knife, rubber gloves, germicidal disinfectant detergent.

### **Safety Precautions**

1. Always use caution wet floor signs.
2. Always clean floor using broom or dust mop before attempting to wet mop floor.
3. Always keep wet mop away from electrical outlets. (Electrical outlets in some areas are mounted in the floor.)
4. Always keep equipment close to wall and away from door openings and stairs.
5. Always keep cleaning equipment in good condition.
6. Frequently change cleaning solutions and rinse water. (As soon as solutions become dirty, you must change them.)
7. Do not let excessive water lay on the floor. (This will loosen tiles and also cause other hazardous conditions.)
8. Do not mix two different types of chemicals together.
9. Select the proper size wet mop for your use. (The preferred size for women are 20 oz. - 24 oz., men prefer 24 oz. - 32 oz. Remember the larger the mop, the heavier it will be.)
10. Begin the operation using clean equipment, mop heads, and solutions.
11. Be sure to use the correct mop which should be marked/coded for wet mopping use.
12. Never use wet mops marked/coded for bathrooms in other areas. This will cause cross contamination.

## **Procedures**

Assemble equipment, fill one mop bucket two-thirds full with germicidal disinfectant cleaner and cold water, and one mop bucket two-thirds full of clean cold water (hot water will soften floor finishes).

1. To reduce errors in the dilution ratio when mixing chemicals, all custodial closets are equipped with a dilution center. This piece of equipment is designed to mix the chemical and water at the proper dilution rate. Under no circumstances should any employee disconnect or alter the metering devices or use chemicals directly from the containers located on the unit.
2. Proceed to the designated work area, place wet floor signs, clean floor with dust mop or broom, remove chewing gum and other foreign substances with a putty knife. Remove dirt and trash using dust pan and brush/broom, discard in waste container. In some areas such as classrooms, furniture will have to be moved to one side of the room and then moved to the other side or removed completely.
3. Immerse mop into the prepared solution, then using wringer located on bucket, press out excessive water. Remember to bend at the knees when pressing down on wringer handle. This will take the strain from your back.
4. Start on one side of the room and “lay out” the area to be mopped. To do this lay the mop on the floor close to the baseboard/cove base and lay down approximately 8 inches of solution around the complete area. Pay attention to the corners. This is where dirt and wax is most likely to build up. Remove this with a putty knife. After lay out is completed, immerse mop in solution and wring out excess solution again.
5. Starting at the back of the room and feet apart, mop on floor, lay down solution by swinging mop from left to right or right to left, using an “S” pattern. Do not raise mop from floor. When swinging the mop, this will throw the solution up onto the wall and other stationary furniture/equipment. After you have made six to nine strokes with the mop, lay it over on the other side and continue to mop. After a few more strokes you will have to dip the mop for more solution and then continue until finished. You may need to change the solution. At this point it will be your decision to do so.
6. Let the solution stand for 10 minutes. This will not only kill bacteria, it will loosen the dirt which can then be picked up by the mop. The wet mop head band is equipped with a nylon mesh pad. This can be used to remove black heel marks from the floor. Immerse the mop in solution and press out as much solution as possible. Use mop and pick up all the dirty solution from the floor.

7. The next step will be rinsing the floor. This will remove the cleaner residue from the floor which would make the floor soil more easily. Using mop bucket two-thirds full of clean cold water, lay the water on the floor in the same way the germicidal disinfectant cleaner was used. Follow the same steps, press out as much water as possible from the mop and pick up all the water from the floor.
8. Wipe excess water from baseboard with clean cloth, rearrange desks and other furniture, inspect the area. A properly wet mopped floor should have a clean surface with no water spots. The corners should be clean. Return all equipment to custodial closet for cleaning and storage, wash mops with hot water, wring out excess water, hang up to dry.

## Wet Screening Method

1. Sweep floor of all debris.
2. Remove any tape on the floor and remove any gum with a putty knife.
3. With an automatic scrubber and using an aggressive black stripping pad, apply Schilling's squeaky or a water based neutral cleaner designed to use on wood floors – 11 oz. to 1 gallon of water. Pick up solution with squeegee with initial first pass. This will remove all dirt, body oils, spills, and etc.
4. In a 20 x 20 area, apply solution with a wet mop, or again with automatic scrubber and leaving solution on the floor. Using a 100-grit screen on a low rpm machine, begin screening floor at a moderate speed with the grain; making sure floor stays wet at all times.

NOTE: Use one screen for every 500 square feet. Never use a damaged screen on floors. This may result in uneven surface dulling or create deep scratches in the finish that will not be easily removed. Make sure all areas have been abraded and you overlapped each pass. If any areas remain shiny, screen that area again so the floor is uniformly dull.

5. Pick up solution with automatic scrubber or wet/dry vacuum.
6. Proceed to next section of floor following same manner until entire floor is wet screened.
7. With automatic scrubber, rinse entire floor with tap water, (with clean black pad) picking up with squeegee immediately.
8. Tack rag floor with a clean Turkish towel, well wrung out with water. Be sure no residue is left on the floor.
9. Allow floor to dry.
10. Make sure at this time, there is no fine dust on the floor. If there is any evidence of dust, tack floor again. Remember, if dust is left on the floor, there may be a problem with the finish adhering to the floor.
11. Apply first coat of gym sealer with the wax-o-matic. Mops or sponge mops are not recommended. Always apply finish with the grain of the wood.
12. Allow finish to dry 1 to 2 hours (depending on humidity) before applying next coat. **DO NOT ALLOW ANYMORE THAN 8 HOURS BETWEEN COATS**. If you do, you must screen between coats to get the proper adhesion.
13. Clean applicator with soapy water and rinse thoroughly as any residue of finish left will become very hard.
14. Allow 72 hours curing time for light traffic. Allow one-week curing time for heavier traffic.

NOTE: Best results are obtained with adequate ventilation and floor temperatures between 60 and 95 degrees. During drying, avoid direct drafts on the floor. This will prevent the floor from leveling properly. Do not pour unused product back into container to avoid contamination of product.