

# **PLANT OPERATIONS PROCEDURE MANUAL**

Building the Future



## **Helpful Hints**

**SECTION 7**

## HELPFUL HINTS

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## HELPFUL HINTS

### Cleaning Tips

1. **Cafeteria Table Tops** - A floor wax applicator can be used for cleaning table tops quickly. Reserve a new applicator for this purpose and use a mild cleaning solution.
2. **Chalkboard Erasers** - Can be best cleaned by using a crevice tool attached to a vacuum cleaner.
3. **Chalkboards** - Shed crayon marks readily when cleaned with a rubber eraser.
4. **Chalk Dust** - A clean dust mop head is an effective tool for removing dust from blackboard chalk trays.
5. **Chewing Gum** - Deposits can be removed with a putty knife if the gum is stuck to wood or metal. Make sure it is thoroughly dry and take care not to scratch the surface.
6. **Chrome Fixtures** - Can bedevil the most conscientious cleaner. To cut down on the elbow grease, try a window cleaner solution. Choose one that does not leave a film; wipe fixtures with a clean cloth merely dampened with the cleaning solution.
7. **Dusting Cloths** - The capacity of a cloth to gather and hold dust is greatly enhanced by applying a light spray of dust mop treatment to it and allowing it to Acure over night.
8. **Dust Mops** - Will be less likely to spread dust if cleaned with a handheld scrub brush. A wet/dry vacuum can also be used to clean dust mops.
9. **Eraser Cleaning** - The use of a crevice tool attached to a vacuum cleaner will clean dust from eraser. You can schedule eraser cleaning at the most advantageous time in your daily custodial schedule. If you have two sets of erasers, you can alternate their use.
10. **Entrance Doors (Exterior)** - Can be kept clean if you wash them periodically with a solution of warm water and detergent. After washing, apply a good grade of wax.
11. **Felt Tip Pens** - Carbon tetrachloride, alcohol, and lacquer thinner are among the most effective agents for removing marks left by a felt tip marking pen. Whatever you use, be very cautious about damaging the marked surface. Always test the removing agent in a small area before general application.
12. **Garbage Cans** - Clean immediately after they are emptied. Storing a dirty can will cause unpleasant odors and make your cleaning job more difficult. Hot water makes cleaning easier.
13. **Hall Lockers** - Can be kept bright and free of finger marks if a coat of car paste wax is applied to the surface and buffed.

14. **Molded Plastic Chairs** - (with a rough surface) Can be cleaned with a piece of nylon net fabric that has been moistened with an abrasive powder paste. The rinse job can be done by taking the furniture outside and washing with a garden hose. Another way would be to use a pressure washer, if available.
15. **Plastic Jugs** - Make excellent containers for liquid soaps and cleaners. The containers must be properly labeled to clearly identify the contents.
16. **Sink Drains (Pop-Up)** - Are easier to clean if you use a baby bottle brush.
17. **Sink Stains** - Can be removed when rubbed with a nonabrasive cleaner and a piece of nylon buffing pad.
18. **Sponge** - Damp is excellent for removing lint, fuzz, or hair from upholstered furniture in offices, lounges, and teachers rooms.
19. **Stairway Cleaning** - Is a lot easier when you use a sponge to remove soapy water from the corners of the steps.
20. **Exit Lights** - If you are troubled with breakage of glass lenses, try replacing the glass with 1/8 inch thick plastic. This material can be cut with simple tools and is available in clear or colored sheets.
21. **Extension Cords** - Come in varying lengths. It is helpful to identify the lengths. Use a paint of contrasting color to mark the footage on the plug and socket.
22. **Light Bulbs** - Can be carried up and down a ladder safely by modifying a one-gallon plastic jug. Cut a hole several inches wide near the neck of the jug to gain access to the inside.

#### **Floor Tips**

1. **Baseboards** - Use a long-handled wall brush covered with a soft cloth moistened with mop spray for easier cleaning.
2. **Brooms** - To keep handles from marking walls or falling down when placed against a vertical surface, secure a rubber chair tip or crutch tip to the end of the handle.
3. **Cafeteria Tables** - A simple and quick way of replacing cafeteria tables in straight rows after the children have finished lunch is to measure the floor and place tacks where the legs at the end of the tables should rest.
4. **Carpet Remnants** - Can be used as an inexpensive but effective aid to floor care. Cut the carpeting in the round shape of the floor machine brush and use it as a polishing pad.

5. **Chewing Gum** - Can be removed from floor surfaces with a 2 inch putty knife attached to an old mop handle. This do-it-yourself scraper also eliminates most of the bending usually involved with this task.
6. **Door Stops** - Prevent from sliding on terrazzo floors by glueing a small piece of emery cloth, rough side down, to the bottom of the door stop.
7. **Dust Mop** - Reserve a dust mop for exclusive use in the gym. A dust mop used in hallways and classrooms will pick up wax particles and deposit them on the gym floor, creating a slipping hazard.
8. **Entrance Mats** - Place entrance mats at entrance doors to greatly reduce the quantities of dirt from entering the hallways and classrooms. Mats will add life to the floor finishes.
9. **Floor Mops (Wet)** - Soak a new mop or applicator head in warm water before use. This will remove the sizing and improve its performance.
10. **Floor Machine** - Remove the brush before storing it. This will prevent the brush from becoming matted down due to the weight of the machine bearing down on it for an extended period of time.
11. **Floor Machine Pads** - Used and dirty pads can be restored by soaking in a large can containing hot water and stripper solution. Agitate, and turn the pad over so that both sides are clean. Then rinse and hang to dry. (use rubber gloves)
12. **Floor Seals** - Are usually delivered in 5 gal. containers and may become lumpy after the container is opened and left sit for a long period of time. To prevent waste, prepare floor surfaces large enough to accept 5 gallons of finish. Example: Large dining rooms, hallways, and two or more classrooms. Do not pour unused portions back into container.
13. **Floor Tiles** - Can be scratched, marred, and cut permanently. To prevent this problem check the legs of desk, chairs, tables and other heavy furniture and replace all worn or broken glides. For furniture you can't move, use composition furniture cups, one cup to a leg.
14. **Marking Polished Floors** - Eliminate marking floors when you move furniture by placing a clean, flattened milk carton under the legs of the furniture to be moved.
15. **Pencil Eraser** - Can be used to remove marks and stains from tile floors when more common cleaning methods fail.
16. **Push Broom** - Handle that has become loose can be securely locked to the broom head by inserting some plastic wood in the hole, then screwing the handle in and left to dry.
17. **Removing Stubborn Marks** - When wet mopping a floor, try attaching a small piece of an old abrasive scrubbing pad to the end of the clamp on the wet mop. The small pad is then always available when you run across a spot that resist removal by the mop.

18. **Rewaxing/Refinishing** - Do not apply wax to the area within 8 to 10 inches of the baseboard. This will save you the necessity of having to strip an unsightly build up of unneeded wax.
19. **Rugs** - The life of a rug can be prolonged by occasionally rotating its position 180 degrees. This will equalize wear over the entire surface rather than confining it to limited traffic lanes.
20. **Scrubbing Machines** - Are supposed to be doing a cleaning job, but often they dirty walls and furniture in the process by splashing dirty water. You can prevent this by curving a piece of rubber baseboard material around the outside of the machine base and securing it with wire.
21. **Tile Floor** - Whenever new tile floor is laid in your school, be sure to set aside several extra tiles. These can be used as replacement tiles with a reasonable assurance that they will match the floor. It is difficult to buy matching tiles at a latter date since shades vary between production runs of the same color by the same manufacturer.

## STANDARD DEFINITIONS OF TERMS RELATING TO POLISHES, FINISHES AND RELATED MATERIALS

### General

**Black marking:** Black marks on a flooring surface usually caused by the impact of the soles and heels of footwear.

**Buffable:** Capable of improvement in gloss or general appearance, or both, of a polish film by a mechanical action.

**Buffing-type of floor polish:** A floor polish that requires buffing to maintain an enhanced appearance.

**Build-up:** Condition resulting from lack of self sensitivity in a polish, whereby new film deposits over old, with little or no self cleaning action.

**Cleaning:** Removal of marks, dust and other extraneous materials from the surface.

**Coagulum:** An agglomerate of particles.

**Creaming:** The separation of a layer of the dispersed phase of an emulsion polish to the surface of the liquid continuous phase.

**Depth of gloss:** The optical phenomenon of relative depth perceived when viewing reflective surfaces.

**Detergent resistance:** The degree to which a polish film exhibits no apparent deterioration when spotted or cleaned with a solution of a non-abrasive, non-ammonia detergent.

**Distinctiveness of image:** The clarity with which a surface forms mirror images of objects by reflection.

**Drag:** Physical resistance to spreading of polish.

**Ease of use:** Cumulative effect of drag encountered in application or removal, or both, and the amount of time required to achieve the desired finish.

**Film clarity:** The ability of deposited film to allow an aberrational view of the surface below.

**Fracture:** A rupture or break of the polish film (usually multiple).

**Glass retention:** The ability of applied polish to retain a gloss under normal wear conditions excluding exposure to water.

**Haze:** Film that reflects unclear or foggy images, usually indicative of incompatibility.

**Leveling:** The property of a freshly spread aqueous polish to dry to a uniform and streak-free appearance.

**Mar:** Mutilation of polish film repairable only by recoating.

**Nonvolatile:** The percent nonvolatile residue obtained by the application by the American Society for Testing and Materials.

**Polish:** A temporary coating that enhances the appearance and may protect the substrate to which it is applied.

**Powdering:** Partial or total disintegration of the polish film resulting in a fine, light-colored material.

**Recoatibility:** The application characteristics of a polish and the appearance of the film after successive coatings to a surface.

**Rubber Heel Marking:** The mechanical transfer of coloring matter from rubber heels to the surface.

**Scratch:** Damage resulting from the movement of a hard pointed object.

**Scuff:** Disfigurement of polish film resulting from the abrading or scraping action repairable without recoating.

**Self-polishing type floor polish:** A floor polish that dries to a shine.

**Service life:** The period of time required under use conditions to change the appearance of a surface treated with a floor polish sufficiently to require re-treatment.

**Slip resistance:** Frictional force opposing movement of an object across a surface, usually with reference to the sole or heel on a floor.

**Soil:** Solid foreign matter embedded in or adhered on the surface.

**Soil retention:** The property of holding foreign matter in or on the surface after a cleaning process.

**Spray buffing:** The restoration maintenance of a previously polished floor by the action of a suitable floor polishing machine immediately following the mist-spraying of an appropriate product onto the surface whereby the wet application is buffed to dryness.

**Spreading:** The action of flowing out over a surface during the application.

**Stain:** Discoloration by foreign matter.

**Streaking:** Non-uniform deposition of the polish film.

**Traffic marking:** Marring or discoloration or both of a floor surface by traffic.

**Volatile solvent:** Any nonaqueous liquid that has the distinctive property of evaporating readily at room temperature and atmospheric pressure.

**Water beading:** Surface property that causes the formation of discrete water droplets on the polish surface.

**Water-emulsion floor polish:** An emulsion-based floor polish in which water is the continuous or external phase and falling into two categories:

1. **Polymer-emulsion:** A water-emulsion floor polish containing a predominance of synthetic emulsion polymers.
2. **Wax-emulsion:** A water-emulsion floor polish containing a predominance of natural or synthetic waxes or both.

**Water spotting:** Change in appearance of surface resulting solely from the action of cool water.

**Wear:** Attrition of the polish film resulting from normal use.

**Wetting:** The property of a polish to uniformly and completely contact the solid surface to which it is applied.

**Soil:** Solid foreign matter embedded in or adhered on the surface.

## **CARPET CARE**

### **Glossary of Carpet Terms**

1. **Acidity** - A measure of the acid strength of a chemical which has a PH of less than 7. Acids are used for rust removal and anti-browning. Citric acid or white vinegar (5% acetic acid) can be added to shampoos to counteract browning of carpet.
2. **Alkalinity** - A measure of the caustic or base strength of a chemical or detergent. A builder such as sodium silicate, soda ash and trisodium phosphate contribute to alkalinity.
3. **Anti-Foam** (Commonly referred to as defoamer) - A chemical usually a silicone that breaks down foam after it has formed. When performing hot water extraction the defoamer agent breaks down foam both in the recovery tank and in the extractor hose and wand assembly.
4. **Bleach** - A chemical which gives off an active form of oxygen that will unite with a dye to form a colorless compound. Bleaches can be used with care to remove the color left from stains containing dyes. However, bleaches should be used only as a last resort.
5. **Bleeding, Color** - Bleeding is the transfer of fiber dyes by water or solvents. These dyes may be redeposited on other fibers and cause staining. The hotter the cleaning solution, the greater the tendency for dye bleeding.
6. **Browning** (also called water stains) - Jute or cellulosic browning can occur due to deterioration of the jute backing from over wetting during cleaning, flooding, etc., followed by slow drying. The jute backing can release its natural brown colorant which will wick up through the carpet fibers and leave a brownish stain on the surface of the carpet.
7. **Builders** - Alkaline salts that are added to detergents to increase the efficiency of the surfactants. Builders neutralize acids in soil, convert fats and oils into soaps that will dissolve in water, minimize the effects of water hardness and provide and maintain the desired PH of the detergent. Phosphates, silicates and carbonates are typical builders used.
8. **Colorfastness** - Colorfast dyes are not affected by light or by cleaning solutions. To test for colorfastness, test the cleaning chemical on an inconspicuous area of carpet by putting a spot of solution on the carpet and blotting with a white absorbent towel to see if any color transfers to the towel. Remember the hotter the solution the greater the tendency for dye bleeding.
9. **Corrosion inhibitors** - Prevents the development of rust and minimizes corrosion on the metal parts of carpet cleaning equipment.

10. **Deodorizer, Carpet** - Odor in a carpet normally develops either from spilled materials or from the bacteria within the material. Normal shampooing will remove or reduce many odors. Many so-called deodorizers are just perfumed masking agents. A true deodorizer for carpets will contain a germicide or mildewcide to kill bacteria and eliminate the odor.
11. **Detergent** - A cleaning agent that aids wetting, soil loosening and suspending of soils. Synthetic detergents are formulated to work in hard water without leaving scum and rinse out more easily than soaps.
12. **Optical Brighteners** - Chemicals that convert invisible ultraviolet light into visible light that the eye can see thereby increasing the light emitted and improving the whiteness or brightness of colors.
13. **PH** - The PH value of an aqueous system is a number describing its acidity or alkalinity. The scale range is from 1 to 14, with 7 the neutral point. PH 1 to 4 is strongly acidic, PH 4 to 6 is weakly acidic, PH 6 to 8 is almost neutral, PH 8 to 10 is weakly alkaline, and PH 10 to 14 is increasingly strong alkaline.
14. **Sanitizing, Carpets** - This operation has strong appeal to hospitals, nursing homes, restaurants, etc. Only E.P.A. registered carpet sanitizers are approved for use in reducing bacteria in carpet fibers.
15. **Soil protectant** - A material applied to the carpet to slow down the soiling rate. They can be included in a shampoo or applied separately. Soil protectors work well in slowing down foot traffic soiling, but may not be effective in eliminating stains since stain repellants are often different chemicals. Soil protectors are often polymers, resins or colloidal silica.
16. **Solvents** - As used in cleaners, they are chemicals capable of dissolving oily and greasy soils and stains and possibly speeding up the drying time because they often evaporate faster than water. Two types are commonly used: Water miscible (mix with water) or Awet@ solvents, such as alcohol and butyl cellosolve, and water immiscible (do not mix) or Adry@ solvents, such as naphthas and chlorinated solvents.
17. **Stain Repellent** - A material applied to the carpet to make spills bead up and not soak into the carpet thereby giving easier removal. Common stain repellents are fluorochemicals, which bead oil and water-based spills and retard soil, and silicones, which bead water-based spills but not oil and may actually increase the soiling rate.
18. **Static Electricity and Anti-Static** - One of the biggest problems with carpeting is its tendency to allow static electricity to build up during the winter months when the relative humidity is very low. The result is a shock whenever anything conductive is touched while standing on the carpeting. Static buildup can be reduced to the point where shocks are not noticeable by use of anti-static agents which are applied to the carpet on a regular one-to-three month basis as needed. The problem with most anti-static agents are their tendency to cause the carpet to re-soil more rapidly.

- 19. Surfactant** - A synthetic detergent and the primary ingredient in any scrubbable carpet cleaner. Its function is to penetrate down the fibers, dissolving dirt entrapping oils, and thus freeing the particulate soil so it can be removed by vacuuming. Surfactants used usually dry to a hard but waxy residue and a high percentage is left in the carpet after vacuuming. Sodium lauryl sulfate is the most common surfactant used for shampoo.

## **FLOOR CARE**

### **Glossary of Floor Care Terms**

1. ***A.O.A.C. - Use*** - Dilution confirmation test. Test sponsored by the association of analytical chemists which shows whether a disinfectant or disinfecting cleaner kills bacteria at the dilution recommended by the manufacturer and shown on the label.
2. ***Biodegradable*** - Capable of being decomposed or broken by biological organisms or action. Generally refers to detergents and cleaners.
3. ***Buffable Finish*** - Either a wax or a polymer that can be dry buffed to restore high gloss.
4. ***Build-up*** - Multiple layers of dirt, grime, wax or floor finish.
5. ***Caustic*** - Referring to product such as a drain or toilet bowl cleaner with harsh chemical action.
6. ***Disinfectant*** - An agent which destroys disease germs or other harmful microorganisms in their active (negative) state, but not ordinarily, bacterial spores.
7. ***Germicidal Cleaner*** - A cleaner which also destroys disease germs. (Action is same as Disinfectant.)
8. ***Hard Water*** - Water high in mineral content which interferes with the effectiveness of cleaners.
9. ***Mill Finish*** - A finish applied by the tile manufacturer to resilient floor tile which must be removed prior to sealing or finishing.
10. ***Non-Buffable Finish*** - Generally a finish which dries to a high durable gloss and cannot be dry buffed to restore the shine.
11. ***Phenolic Cleaner*** - A cleaner which contains phenolic compounds for bacterial control.
12. ***Porous*** - In reference to a surface, open and full of pores; capable of being penetrated by a liquid.
13. ***Residual*** - That which remains of a product or substance. A residual-type insecticide, for example, leaves a residue on the surface to extend the killing power for days, even weeks.
14. ***Resilient*** - Capable of withstanding shock or pressure without permanent deformation or rupture. Asphalt, vinyl, and linoleum are resilient-type flooring materials.
15. ***Sanitize*** - To reduce the number of microorganisms to a safe level as judged by public health requirements.

- 16. Self-polishing** - A floor finish or furniture polish that dries to a shine and needs no further effort to bring about a shine.
- 17. Slip-Resistance** - The Adrag@ noticed when walking on a floor that results in safer footing; the amount of resistance to slipping.
- 18. Spray-Buffer** - Renewing, touching-up or maintaining a floor by spraying the same finish originally used for the shiner, followed by machine buffing.
- 19. Staph (Staphylococcus)** - A disease-causing microorganism.
- 20. Strip** - To remove old finish, wax, dirt and other material from a floor, leaving it clean for reapplication of sealer and/or sealer-finish.

## **DISPLAYING THE FLAG**

### **Questions and Answers**

If there is one place in the community where the flag should be displayed daily, and correctly, it is at the school building. Here are half-a-dozen questions and answers that will insure that flags at your school are properly displayed.

1. Q: If the flag is to be displayed outdoors with other flags, how should it be hung?  
A: If the flag is displayed with a group of state or local flags, it should be at the center and in the highest position. If flown from the same halyard, it should be at the peak. If flown from nearby masts, the U.S. flag should be flown at the right.
2. Q: How should the flag be displayed on Memorial Day?  
A: The flag should be flown at half mast until noon; then fly it at mast peak for the rest of the day.
3. Q: How should an old flag be destroyed?  
A: Preferably by burning, but in any case it should be destroyed and not left lying around in disuse.
4. Q: How should the flag be displayed in a room or auditorium?  
A: A flag should never be used as a drapery or bunting, but may be properly displayed from a platform staff or hung flat on a wall. If it is used with a speaker, the flag should be hung on a staff on the speaker's right, or displayed flat directly above and behind the speaker's platform.
5. Q: Should the flag be displayed every day?  
A: No, not when the weather is bad.
6. Q: Is there a proper time and way to raise and lower the flag?  
A: Definitely. The flag should be hoisted vigorously and lowered ceremoniously. It should not be raised before sunrise or lowered after sundown except for special patriotic occasions.

## **CARE OF HOUSEKEEPING EQUIPMENT**

### **Dust Mops**

1. Do not use on wet oily floors.
2. Treat dust mop heads by spraying after each day of use, but do not dip mop into the treatment or spray on too much treatment.
3. Hang up the mop with the head down, and not touching the floor, when not in use.
4. When soiled, the mop head should be washed in lukewarm, mild soapy water and rinsed thoroughly. This can be done in a washing machine set on “warm.”
5. Be sure the mop block/frame is the proper size for the mop head, and the tie cords are in proper repair and are in place.

### **Floor Machines**

1. Always rest the machine on its wheels, not the brush.
2. Clean the machine and the electrical cord after each use.
3. Regularly inspect the cord for fraying or loosening.
4. It is safest to wear rubber overshoes and rubber gloves when operating on a wet floor.
5. Check on nuts, bolts or screws that may work loose.
6. Motor adjustments and/or repairs should be done only by qualified personnel.
7. In machines having solution tanks, be sure to empty and clean the tank and lines after each use.
8. If grounding plugs are furnished, be sure to use them.

### **Floor Machine Brushes**

1. Turn the brush into place on the machine by hand. Do not turn on the floor machine until the brush is on properly.
2. Hang up the brush or lay flat on its back. Do not let it stand in storage on the bristles.
3. Comb the bristles regularly to remove foreign matter and to eliminate tangling.
4. If wooden blocks are warped and bristles are worn off, replace with new one.

5. Never use a brush having a loose or broken adaptor plate.
6. Be sure to use the proper brush for the job to be performed.

### **Mop Bucket and Wringer**

1. Keep working parts properly oiled.
2. Keep all screws and bolts tightened.
3. Keep casters properly lubricated and in good repair and replace them when necessary.
4. Clean both bucket and wringer after each days use.
5. Too much force on a wringer can break it. Do not lengthen the handle.
6. .Make sure the bucket and wringer are large enough for the mop that is being used.
7. Remove loose mop strands and other articles caught in the wringer.

### **Push Brooms**

1. Rotate the broom frequently so as not to unduly wear one side.
2. Do not lean too heavily on the handle.
3. Do not let the broom stand on the fibers as it will bend them out of shape and make the broom useless.
4. Use only for purposes intended; never as a mop, squeegee, lever or hammer.
5. Be sure you have the proper broom for the job intended.
6. Combing the bristles every week or so will keep it in the best operating condition.
7. Brooms with natural bristles can be attacked by moth larvae if in storage for some time. Protect them with moth balls.

### **Squeegees**

1. Wipe blades dry after each use.
2. Keep a spare set of blades on hand
3. Do not store squeegees or spare blades where they can be affected by sunlight.

## **Vacuums**

1. Follow the warnings and procedures found in manuals.
2. Always empty vacuum, wet or dry type, after each use.
3. Check automatic cut-off mechanism frequently on wet/dry vacuums to make sure water does not enter motor.
4. Tanks should be cleaned at least every month with a disinfectant solution to prevent growth of bacteria and algae.
5. Store vacuum in an open position to allow entrance of air for drying.
6. Always use a filter bag when dry vacuuming.

## **Wet Mops**

1. Do not twist or squeeze the mop too hard as it will break down the strands.
2. When in storage, do not let wet mop touch other equipment.
3. Be sure the wet mop receives a good rinsing and is wrung out after each use.
4. Be careful when using the mop on splintered floors or floors with projecting nails so as not to catch and tear the strands.
5. Replace the mop head if strands are worn or frayed.
6. When storing mops, hang up so that the mop does not touch the floor and strands do not touch the wall.
7. All wet mops must be color coded with colored tape for proper identification; i.e., red - restrooms, blue - kitchen, white - applying finish, green - stripping, etc.