



Introduction to Floor Care

Substrates, Application, Maintenance, Formulating
& Troubleshooting



Section I: Types of Flooring

- Resilient Vinyl
 - Vinyl Composition Tile (VCT)
 - Official Vinyl Composition Tile (OVCT)
 - Pure Vinyl Tile
 - Japanese Vinyl Tile

There are four types of commonly used vinyl tile, sold primarily as 12" x 12" squares or as industrial sheet vinyl.

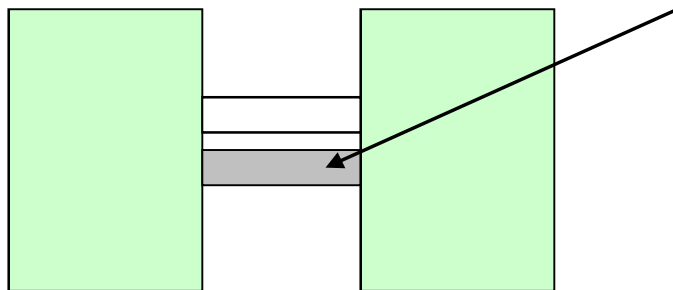


- Resilient Vinyl Asphalt (VAT)
- Resilient Marmoleum
- Resilient Linoleum
 - 18" x 18" Domestically (USA)
 - 12" x 12" available in Europe
 - 24" x 12" tiles, 1/2" thick
- Resilient Asbestos
 - 9" x 9" tiles

Marmorette –
made with
renewable
materials, looks
like marble



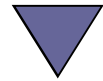
- Resilient Rubber
 - Raised Round
 - Raised Square



Dirt becomes trapped between layers of floor polish in the valleys of the raised squares

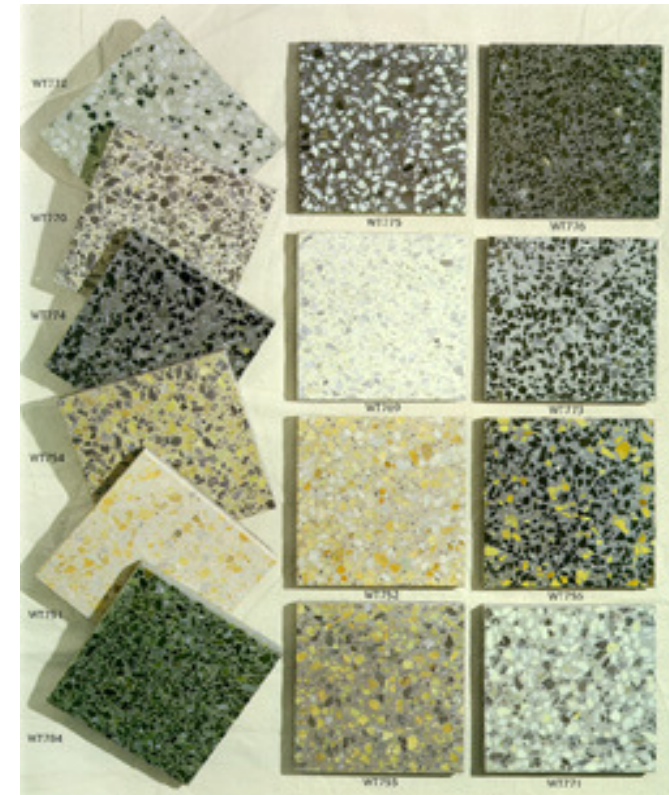


- **Non-Resilient Tile:**
 - **Terrazzo (Concrete & Epoxy)**

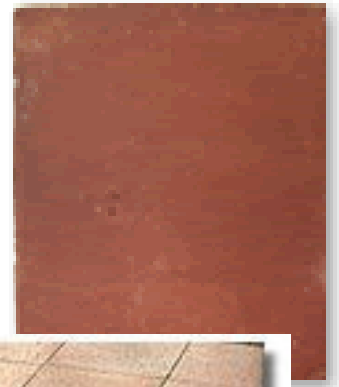


"Halo-ing"
observed on
top of marble
chip

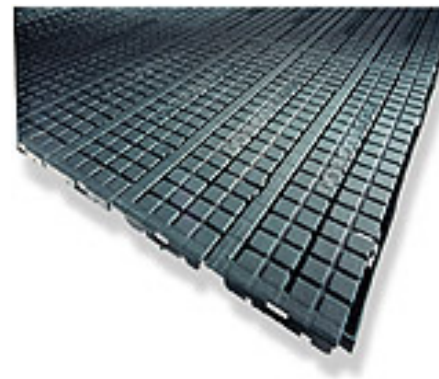
- **Marble (tumbled & polished)**
- **Granite**
- **Ceramic (Glazed & Unglazed)**



- Paver Brick
 - East Coast
 - West Coast (Satile Mexican Tile)



Polypropylene Flooring



Section II: Maintenance Equipment

- Low Speed Machine
 - Also called a “Swing” machine
 - 175 – 300 rpm
 - Motor sits directly over the pad
 - Spray Buffing
 - Stripping Practices (use with wet/dry vacuum)
 - Low cost (\$300 - \$500)



- **Electric Burnishing Machine:**
 - 1,200 – 2,000 rpm
 - Motor is set over the wheels
 - Does not “swing” and runs at faster speeds
 - May be plug-in or battery operated
 - Burnishing for floor maintenance
 - Average prices start at \$700 - \$1,800



- Autoscrubber:
 - 2 Pads under the apron
 - Sprays out water or cleaning solution
 - Vacuum with squeegee
 - Used for stripping, neutral cleaning
 - For a dual head, self-propelled machine, prices start at around \$6,000

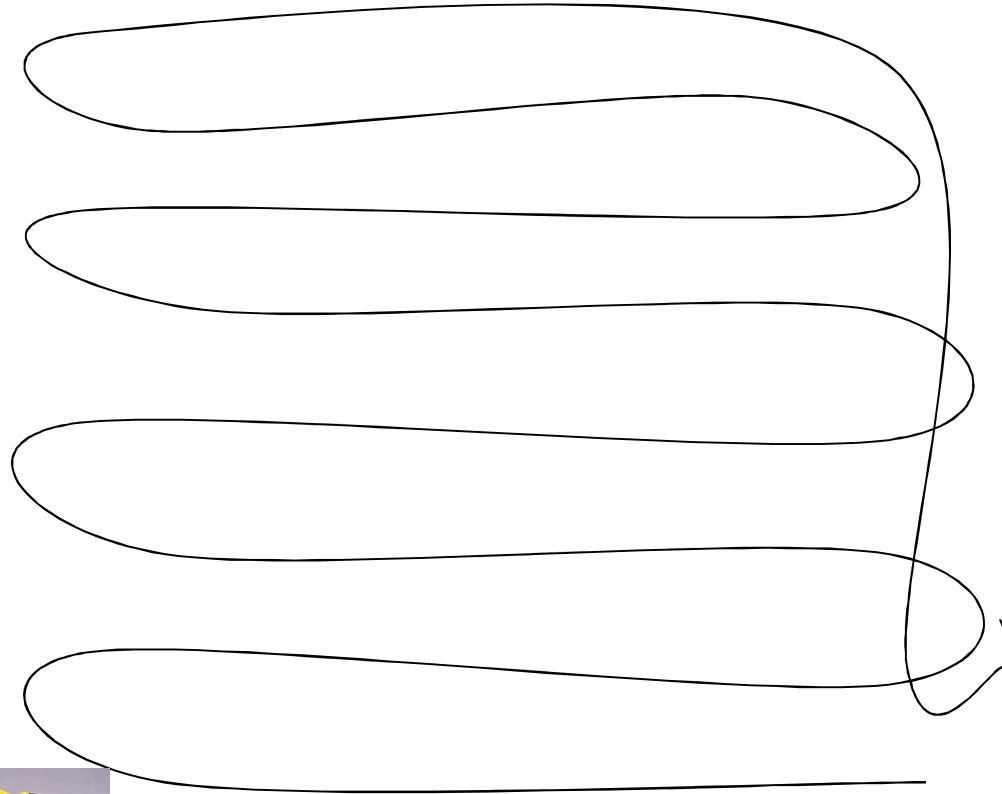


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Section III: Application & Testing



Typical Floor Finish Applications Tests

- Gloss Development
 - Slip Resistance (COF)
 - Water Resistance
 - Dirt Pick-Up Resistance
 - Stain Resistance
 - Burnish Response
 - Powdering
 - Scuff Removal
 - Field Testing
- Black Heel Mark Resistance
 - Scuff Resistance
 - Detergent Resistance
 - Removability
 - Stress Recoat
 - Block Resistance (Metal Glide Adhesion/Release



Section IV: Terminology

- Walk-Off Mats
- Damp Mopping
- Wet Mopping
- Auto-Scrubbing
- Dry Mopping
- Spray Buffing



Section V: Maintenance Practices

- Floor Maintenance Guide
- Low Maintenance
- Medium Maintenance
- High Maintenance
- Buffing & Cleaning
- Burnishing
- Scrubbing
- Stripping



- **Low Maintenance**
- **Medium Maintenance**
- **High Maintenance**



Floor Maintenance Guide

| | Scrub & Recoat | Weekly Spray Buff | UHS Burnishing | |
|--------------------------------|---|---|---|--|
| | | | Daily Wet Look | Weekly High Shine |
| Suggested Use Locations | Schools Health Care Offices Small Areas | Health Care Schools Office Lobbies | Grocery Chain Retail High-end Retail Lobbies | Health Care Malls Schools Airports Large Areas |
| Labor Usage | Low | High | Highest | Moderate |
| Product Usage | High | Moderate | Highest | Highest |
| Cost | Low | Moderate | Highest | High |
| Ease | Very | Moderate | Difficult | Moderate |
| Initial Appearance | Very Good | Excellent | Excellent | Excellent |
| Average Appearance | Good | Very Good | Excellent | Very Good |
| Benefits | Low Maintenance | High shine in moderate traffic | Super Gloss | High shine in moderate traffic at lower cost |
| Aspects | Consistent appearance Difficult to maintain except in light traffic areas. | Labor intensive | Product & labor intensive Training needed | Product intensive |



Low Maintenance (Dry Bright Floor Finishes)

Maintenance

Dust Mopping
Damp Mopping
Spray Buffing
Autocrubber
Strip & Recoat
Machine

Frequency

1-7 times per week
1 or more times per week
1 time per week (maybe)
1-? times per week (maybe) ?
12-18 months

Method

Dust Mop
Wet Mop, Neutral Cleaner
Low Speed, Spray Buff
Autoscrubber or High Speed
(175/300RPM) with Black Pad
& Wet/Dry Vacuum with Squeegee



Medium Maintenance

| <u>Maintenance</u> | <u>Frequency</u> | <u>Method</u> |
|---------------------------|-------------------------|--------------------------|
| Dust Mopping | Daily | Dust Mop |
| Damp Mopping | Daily | Wet Mop, Neutral Cleaner |
| Autoscrub-Neutral Cleaner | Daily-White Pad | 3X per week or less |
| Burnishing Propane | 1-3 times per week | Electric, Battery, or |
| Strip & Recoat | Every 9-12 months | Autoscrubber |



Matching Floor Finish to Maintenance Practice

| Low Maintenance | Medium Maintenance | High Maintenance |
|--|--|---|
| <ul style="list-style-type: none"> -Schools, Health Care, Offices, Small areas, restaurants | <ul style="list-style-type: none"> -Schools, Health Care, Offices, Lobbies, restaurants | <ul style="list-style-type: none"> - Grocery, Retail, Big Box, chain store, Lobbies |
| <ul style="list-style-type: none"> -High Initial Gloss | <ul style="list-style-type: none"> -Good Initial and Maintained Gloss | <ul style="list-style-type: none"> -Good Initial and Great Maintained Gloss |
| <ul style="list-style-type: none"> -Daily Cleaning | <ul style="list-style-type: none"> -Daily cleaning | <ul style="list-style-type: none"> -Daily cleaning |
| <ul style="list-style-type: none"> -Spray Buff 1x/week | <ul style="list-style-type: none"> -Electric or Propane Burnish 1-3 times/week (pad selection critical) | <ul style="list-style-type: none"> - 4-7 times/week Electric or Propane Burnish Daily (pad selection critical) |
| <ul style="list-style-type: none"> -12-18 month strip outs | <ul style="list-style-type: none"> -Spray Buff 1x/week (optional) | <ul style="list-style-type: none"> -Scrub & Recoat 6-12 weeks |
| | <ul style="list-style-type: none"> -Scrub & Recoat 6-12 weeks | <ul style="list-style-type: none"> -6-9 month strip out cycles |
| | <ul style="list-style-type: none"> -9-12 month strip out cycles | |



Buffing & Cleaning

(Low Speed Machines 175-1,500 rpm)

- Pads are used to remove light soil, scuffs, black heel marks
- 3M Pads:
 - 4100 White Super Polish Pad
 - 4200 Beige Buffer Pad
 - 5000 TopLine Autoscrubber Pad
 - 5100 Red Buffer Pad



Buffing & Cleaning Pads

- **4100 Super Polish White Pad:** Use to buff very soft finishes or use for spray buffing
 - ETC: Cure Pad, White Polish Pad
- **4200 Beige Buffer Pad:** Dry buff or spray buff. Produces beautiful glossy finish.
- **5000 TopLine Autoscrubber Pad:** For light scrubbing of floors prior to burnishing. Excellent daily cleaning pad, minimal finish removal. Best choice if followed by burnishing.
- **5100 Red Buffer Pad:** Specially designed for spray buffing. Cleans when damp; buffs when dry. Quickly cleans and removes scuff marks and enhances floor appearance.
 - ETC: Red Spray Buff Pad, Tan Buff Pad



Scrubbing

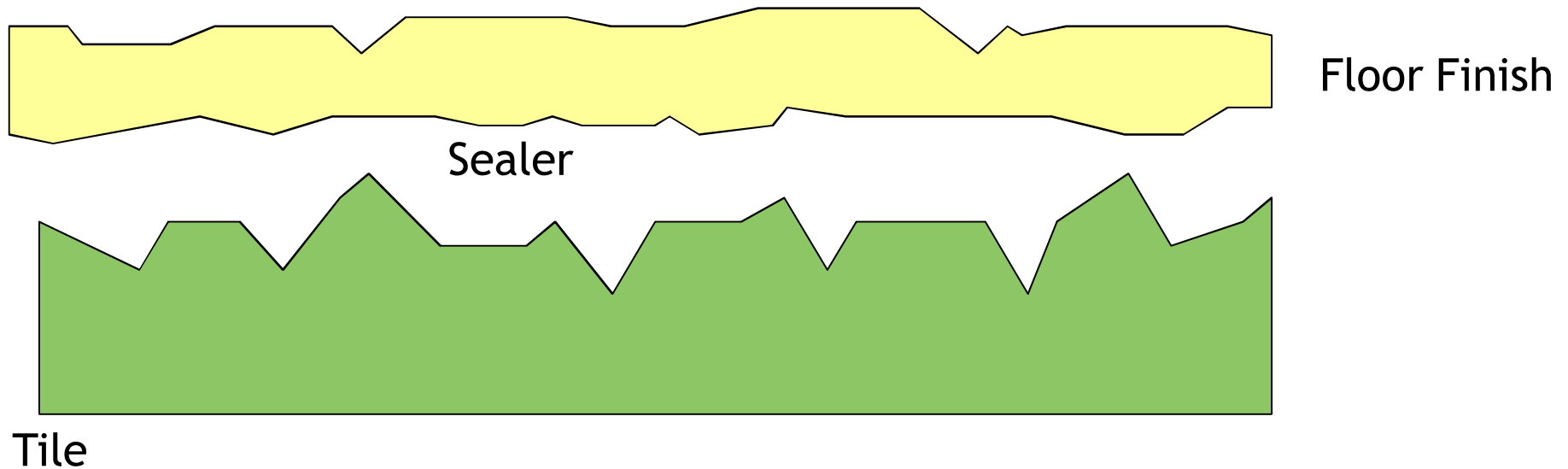
(Low to High Speed Machines 175-600 rpm)

- Pads used to perform a heavy-duty, deep scrub; removes dirt, scuffs, spills prior to recoating with a floor finish
- **5300 Blue Cleaner Pad**
 - ETC: Blue Cleaner Pad, Green Scrub Pad



What is Burnishing?

- Removing 1/20 - 1/50 of the finish coat via mechanical means



Burnishing

(UHS Machines 1,500+ rpm)

- Pads are used to repair imperfections and improve the gloss and image clarity
- 3M Pads:
 - 3100 Aqua Burnishing Pad
 - 3200 TopLine Speed Burnish Pad
 - 3300 Natural Blend White Pad
 - 3400 Tan Burnishing Pad
 - 3500 Natural Blend Tan Pad
 - 3600 Eraser Pad



Burnishing Pads

- **3100 Aqua Burnishing Pad:** For softer finishes; produces brilliant gloss
 - ETC: 200I Aqua Plus, 200I Soft White
- **3200 TopLine Speed Burnish Pad:** Best Gloss; optimizes UHS floor care on a wide variety of floor finishes.
 - ETC: 200I Super Speed Rubberized
- **3300 Natural Blend White Pad:** Gives best gloss; natural & synthetic; excellent results on wide variety of floor finishes
 - ETC: 200I Gorilla Lite
- **3400 Tan Burnish Pad:** Scuff and mark removal. For use on harder finishes or in high traffic areas. Produces brilliant "wet-look" gloss.
- **3500 Natural Blend Tan Pad:** Best for scuff & mark removal; natural hair & synthetic; hard finishes, high traffic areas; removes marks while it polishes
 - ETC: 200I Gorilla, 200I Jaguar
- **3600 Eraser Burnish Pad:** Removes black marks in fewer passes than other pads and retains excellent gloss and image clarity. Excellent durability, minimal finish removal.



Stripping

(Low Speed Machines 175-600 rpm)

- Pads used to remove all finish and floor contaminants prior to application of floor finish
- 3M Pads:
 - 7100 Brown Stripper Pad
 - 7200 Black Stripper Pad
 - 7300 High Productivity Stripping Pad



Stripping Pads

- **7100 Brown Stripper Pad:** For wet or dry stripping; prepares floors for recoating; conforms to uneven floors.
 - ETC: Boss Hawg Pad, Brown Strip Pad
- **7200 Black Stripper Pad:** Stripping procedures
 - ETC: Black Strip Pad
- **7300 High Productivity Stripping Pad:** Quickly and thoroughly removes old finish, dirt and buildup. Unique, open web construction for more efficient stripping.
 - ETC: Razorback Pad



Section VII:TROUBLESHOOTING

- Common problems with Floor Finishes:
 - Poor Gloss Development
 - Streaking
 - Discoloration
 - Powdering or Dusting
 - Excessive Scratching and Scuffing
 - Cratering, Fisheyes, Creeping, Alligatoring & Orange peel
 - Cracking, Peeling, & Delamination



Problem:

Poor Gloss Development

- Common Causes:
 - Insufficient coats applied or poor maintenance
 - Thin coats of polish
 - Wrong scrubbing or buffing pads
 - Dirt or grit on the floor
 - Residue on floor prior to recoat

Corrective Actions:

Scrub and recoat
Apply medium to full coats, do not tightly wring-out mop
Review pad type
Dry and damp mop on regular schedule
Rescrub & rinse well



Problem: Streaking

- Common Causes:
 - Rushed recoat
 - Factory finish not removed from new tile
 - Last coat was too thin
 - Contaminated or stale polish
 - Dirty or contaminated mop

Corrective Actions:

Strip, rinse & refinish
Strip, rinse & refinish
Scrub and top coat
Do not pour old
polish back into
original container;
scrub & recoat
Use clean mops;
presoak mops in
water



Problem:

Discoloration

- Common Causes:
 - New mops not presoaked in water
 - Improperly used cleaner or disinfectant
 - Dirt embedded deeply into floor finish
 - Dirt burnished into floor polish

Corrective Actions:
Presoak new mops in hot water
Review label instructions
Strip and refinish
Clean floor before burnishing



Problem:

Powdering or Dusting

- Common Causes:
 - Factory finish not stripped from new tiles
 - Coats applied too thin
 - Wrong buffing pads or excessive dry buffing
 - Burnishing a polish not designed for UHS systems
 - Rapid drying or cold temps and low humidity conditions

Corrective Actions:

Strip, rinse, and refinish

Apply medium to full coats

Review pad type

Choose the proper floor finish

Review polish type and/or damp mop on regular basis



Problem:

Excessive Scratching and Scuffing

- Common Causes:

- Wrong scrubbing or buffing pads
- Excessive dirt and grit on the floor
- Floor polish too thick from excessive recoating
- Infrequent maintenance

Corrective Actions:

Review pad type
Dry and damp mop on a regular basis
Scrub, rinse, and recoat
Review maintenance frequency



Problem:

Cratering, Fisheyes, Creeping, Alligatoring & Orange Peeling

- Oftentimes, these surface issues are seen immediately upon application of the floor finish to the floor.
- If the first coat shows these problems, the second coat will generally look even worse.
- Common Causes:
 - Contamination on the floor (residue)
 - Contamination on the mop/applicator
 - Floor finish composition



Problem:

Cracking, Peeling, Delamination

- Many times, these surface issues are seen on cold floors. (grocery store freezer aisles, un-heated schools, etc.)
- If the first coat shows these problems, the second coat will generally look even worse.



Stripping & Refinishing

- Place walk-off mats near entrance and exit
- Tape/section off areas that will not be stripped or refinished
- Dust mop the area & assemble necessary equipment
- Apply floor finish stripper (diluted with hot water as per label)
- Wait 10 minutes for penetration of the stripper
- Scrub (Autoscrubber or low speed machine)
 - Go over the surface area 2-3 times to ensure adequate removal of finish
 - Use doodlebug around baseboards, corners, or tight areas
- Vacuum up the stripper/finish slurry (autoscrubber or wet-dry vac)
- Rinse with warm or hot water
- Allow floor to dry completely
- Apply floor finish (30 minutes dry time between coats)

