

**MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY
ENVIRONMENTAL HEALTH SERVICES**

ACCEPTED FLOORING MATERIALS

When determining what type of flooring to install in a food facility, one needs to think about more than the cost of the installation. Other things to consider are:

- Will the flooring be damaged if heavy equipment is placed upon it?
- Will the food preparation (i.e., cooking) generate grease?
- Should safety flooring be installed because the food preparation generates grease, moisture, or spills that could present slip and fall hazards to the employees?

In the long run, it is more cost effective to evaluate how a specific type of flooring will perform in the food facility and then determine which type of flooring to install. If flooring is used that does not perform well in the establishment, additional costs may be incurred from:

1. Flooring replacement required because it has been damaged, cracked or is in disrepair.
2. Worker's Compensation claims from employees hurt on the job.
3. Flooring replacement required because a substandard product was installed.

The following list and standards have been compiled by Environmental Health Services for flooring that is "SMOOTH and of durable construction" as required by California Retail Food Code, Section 114268. Plan submittal is not required for flooring replacement only; however, materials MUST be submitted for evaluation and approval by Environmental Health Services prior to ordering, purchase, or installation of new and replacement flooring.

The "floor surfaces shall be SMOOTH and of durable construction and nonabsorbent material that is EASILY CLEANABLE."

NOTE: *Vinyl Tile (VCT, VAT)* Vinyl tile is not acceptable for floors in any area except customer dining or pre-packaged retail display. Concrete floors are not acceptable finishes in any area EXCEPT customer dining, pre-packaged retail display, pre-packaged grocery warehouse areas, inside walk-in or reach-in refrigeration units. Rubber base or wood base cove are not approved.

Black, dark blue, or chocolate brown color tiles or sheet vinyl are not approved.

I. *Commercial Sheet Vinyl*

Vinyl floor proposals must be approved prior to installation. Submit a sample to Environmental Health Services for all flooring installations prior to ordering, purchasing or installing materials, including any alternative or “green” product proposals.

If sheet vinyl flooring is proposed, check the manufacturer’s specifications and recommendations for installation areas. While sheet vinyl flooring may perform well in many food service areas (i.e., retail sales areas, dining rooms, waitress stations), some manufacturers do not recommend its use in portions of a commercial kitchen, i.e., cooking or WAREWASHING areas. If you have any questions regarding the accepted flooring manufacturer’s recommendations, check with your flooring dealer, request a manufacturer specification sheet and material sample to submit to your Plan Check Specialist.

Standards:

- A. *Vinyl composition throughout (no paper backing).*
- B. *No embossed imprint or wear layer.*
- B. *Minimum .080 inch wear layer thickness of vinyl material throughout.*
- C. *A “no wax” coating on surface is not acceptable.*

Installation:

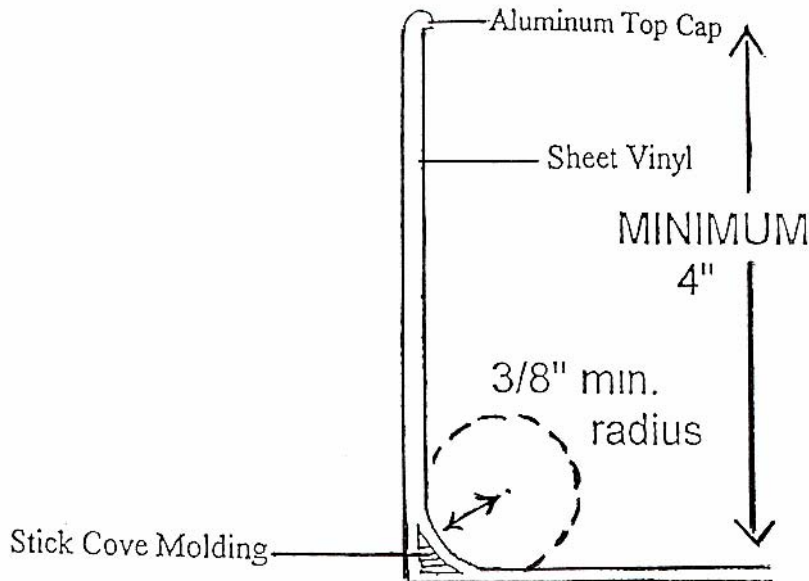
- A. Flooring shall continue up walls, partitions and cabinetry at least four (4) inches, forming an integral 3/8 inch minimum radius cove base. Most installers, however, cove the vinyl up to six inches high for ease of installation. The cove base must be backed with a cove molding and topped with a metal cap. VINYL TOPSET OR RUBBER BASE COVE ARE NOT APPROVED.
- B. Manufacturer’s installation criteria and standards must be followed.
- C. All seams must be “heat welded” to form a continuous sheet vinyl surface of durable construction.
- D. If floor drains are proposed, specifications on the type of floor drain must be submitted to this Department for evaluation of the drain. Approval of the floor drains(s) shall be obtained from this Department prior to installation. Subfloor shall be sloped to at ¼” to 1’ to floor drains, if installed.
- E. Sheet vinyl flooring may not be installed in areas maintained below a temperature of 55 degree F. (i.e., walk-ins, reach-ins).
- F. Only an “Altro Safety Floor”, or equivalent (as determined by Environmental Health) is approved in facilities with cooking, WAREWASHING or extensive FOOD PREPARATION areas.

A few "suggested" commercial sheet vinyl manufacturers follow. This list is not inclusive or exclusive as many manufacturers continue to offer newer series which may satisfy the standard. It is offered as a "guide" to demonstrate the grade of commercial product we will approve. YOU MUST submit all flooring samples for review prior to purchase or installation.

Altro "Safety Floor" (May be installed with floor drains)
Altro, North America (800) 941-1696
467 Forbes Boulevard info@altrofloors.com
San Francisco, CA 94080 www.altrofloors.com

Armstrong "Medintech"
Armstrong World Industries
P.O. Box 3001 (877) 276-7876
Lancaster, PA 17604-3001 www.armstrong.com

Tarkett "Contractor's Choice"
Domco Tarkett, Inc.
Tarkett/Sommer (800) 465-4030
P.O. Box 2467 www.domcotarkett.com
Houston, TX 77252 www.tarkettsommerusa.com



Sheet Vinyl Installation

Cross Section View at Cove Base

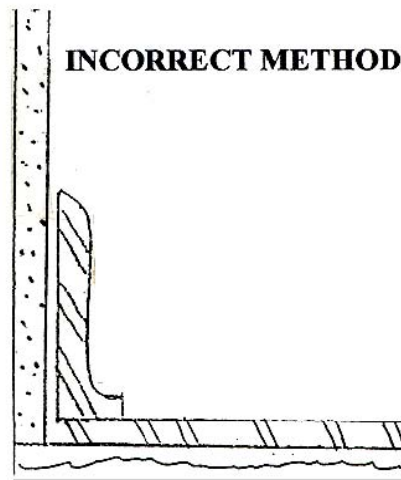
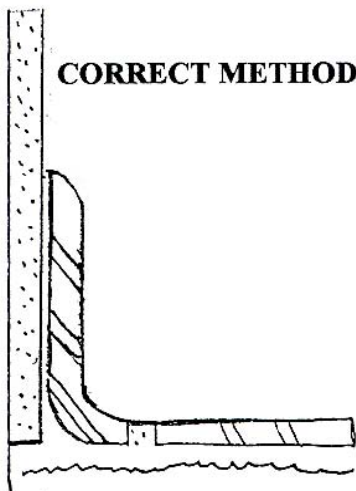
II. Quarry, Ceramic or Porcelain Tile

Standards:

- A. Minimum thickness ¼ inch and impact resistant.
- B. Non-skid varieties must be reviewed on an individual basis, and shall be installed with floor drains and a high-pressure cleaning system. This type of floor tile shall be limited to traffic areas. Tile installed under equipment must be smooth. A finish floor plan must be submitted for proposed installation areas.

Installation:

- A. The grout spacing width between tiles shall not exceed ¼ inch.
- B. Grout between lines and quarry tile types without a glazed surface finish must be sealed to be impervious to water, grease and acid. Epoxy grout is the required standard for tile floor.
- C. Flooring shall continue up the walls, partitions, and stationary cabinetry at least four (4) inches, forming an integral, 3/8 inch minimum radius base cove. The tile shall be a "Bull Nose" design at the top where it meets the wall. A 90 degree angle at the base floor/wall juncture is NOT APPROVED. Provide a detail on all plan submittals.



Quarry/Ceramic Tile Floor and Cove Base Installation

III. *Troweled Epoxy Type Floor*

- A. Minimum finish thickness shall be 1/4 inch.
- B. The surface shall be sealed to be impervious to water, grease and acid.
- C. Flooring shall continue up the walls, partitions and cabinetry at least four (4) inches, forming an integral 3/8 inch minimum radius base cove.
- D. Non-skid flooring with an abrasive texture shall be limited to traffic areas only. Cove base and floor surface areas under equipment shall be smooth. Depending on the degree of abrasive finish texture achieved, a high-pressure cleaning system and floor drains may be required. A finish floor plan must be submitted for approval of exact installation areas. Provide material samples to verify degree of texture.

A few “suggested” commercial vendors that install troweled or poured epoxy floors follow. This listing is not inclusive or exclusive as many manufacturers continue to offer newer series and products which may satisfy the standards. YOU MUST submit manufacturer specifications for installation, material data, MSDS information, etc. for approval prior to installation.

Arizona Polymer 7731 N. 68 th Avenue Glendale, Arizona	(800) 562-4921 azpoly2@qwest.com www.apfepoxy.com
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Dex-O-Tex Div. Crossfield Products 3000 E. Harcourt Street Rancho Dominguez, CA 90221	(310) 886-9100 www.dex-o-tex.com
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Dura-Flex, Inc. 95 Goodwin Street East Hartford, CT 06128	(800) 253-3539 chemedm@aol.com
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General Polymers Corporation Div. Sherwin Williams 145 Caldwell Drive Cincinnati, OH 45216	(800) 624-5041 info@generalpolymers.com www.generalpolymers.com
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Sika Corporation 210 Polito Avenue Lyndhurst, NJ 07071	(800) 933-7452 info@sika-corp.com www.sikacorp.com
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IV. Sealed Concrete

If concrete sealant is proposed, check the manufacturer's specifications and recommendations. Most sealants should be reapplied every six months. If you have any questions regarding the approved sealants, check with your Plan Check Specialist. A sealed concrete floor is ONLY approved inside customer dining, pre-packaged retail display, pre-packaged grocery warehouse areas, and inside walk-in or reach-in refrigeration units.

Standard:

- A. The finished surface shall be SMOOTH and EASILY CLEANABLE and sealed to be impervious to water, grease and acid.

Installation:

- A. The floor shall be a smooth, single pour variety.
- B. Flooring shall continue up the walls, partitions and up the toe kick of stationary cabinetry a minimum of four (4) inches forming a 3/8 inch minimum radius base cove.
- C. The floor shall be sealed with an Environmental Health approved, USDA approved, 2-component water based epoxy concrete floor sealant.
- D. Concrete floor areas with open seams, pitted, chipped, or rough surface areas, shall be covered with an approved tile and base cove material.

A few "suggested" concrete sealant manufacturers follow. This listing is not inclusive or exclusive as many manufacturers continue to offer newer products and series which may satisfy the standards. YOU MUST indicate, directly on your Room Finish Schedule, the manufacturer name and series of the concrete sealant you are proposing to use on your concrete floors.

<i>Arizona Polymer</i> 7731 N. 68 th Avenue Glendale, AZ 85303 (EPOXY)	(800) 562-4921 azpoly2@qwest.net www.apfepoxy.com
<i>Epoxy Systems, Inc.</i> Dunnellon, FL (COATING SYSTEMS)	(352) 489-1666 info@epoxy.com www.epoxysystems.com
<i>Rust-Oleum Corporation</i> 11 Hawstgorne Parkway Vernon Hills, IL 60061 (6000 SERIES)	(800) 323-3584 www.rustoleum.com www.vistapaint.com
<i>Select Products Company</i> 1131 W. Baker Street Costa Mesa, CA 92626 (EPOXY-KOTE)	(714) 429-0808
<i>Pratt/Lambert Industrial Coatings</i> Spectra Paint Center Pasadena, CA (TECH-GARD)	(888) 411-PAINT mail@spectrapaint.cim www.spectrapaint.com

V. *Cove Base*

Only a slimfoot ceramic or porcelain tile base cove, or a fabricated 3/8" radius metal cove may be installed on sealed concrete floor.

Note 1: Vinyl, rubber topset or wood base cove will not be approved in any areas of a food facility where a SMOOTH, continuously coved floor is required. (CalCode Section 114268)

Note 2: In walk-in coolers, a metal topset base may be installed in lieu of a continuously coved flooring against the metal walls if the base cove and wall finish are the same type of metal. (i.e., aluminum base on an aluminum wall) The base cove must have a minimum 3/8 radius cove and be sealed to both the floor and the wall with a clear silicone based sealant.

A few "suggested" commercial base cove tile manufacturers follow. This listing is not inclusive or exclusive as many manufacturers continue to offer newer series which may satisfy the standards. YOU MUST submit all base cove samples for approval prior to purchase or installation.

Sierra Tile

1700 E. Winston Road
Anaheim, CA
(HP/S3619T) 6"

(714) 778-6171

B & W Tile Co, Inc.

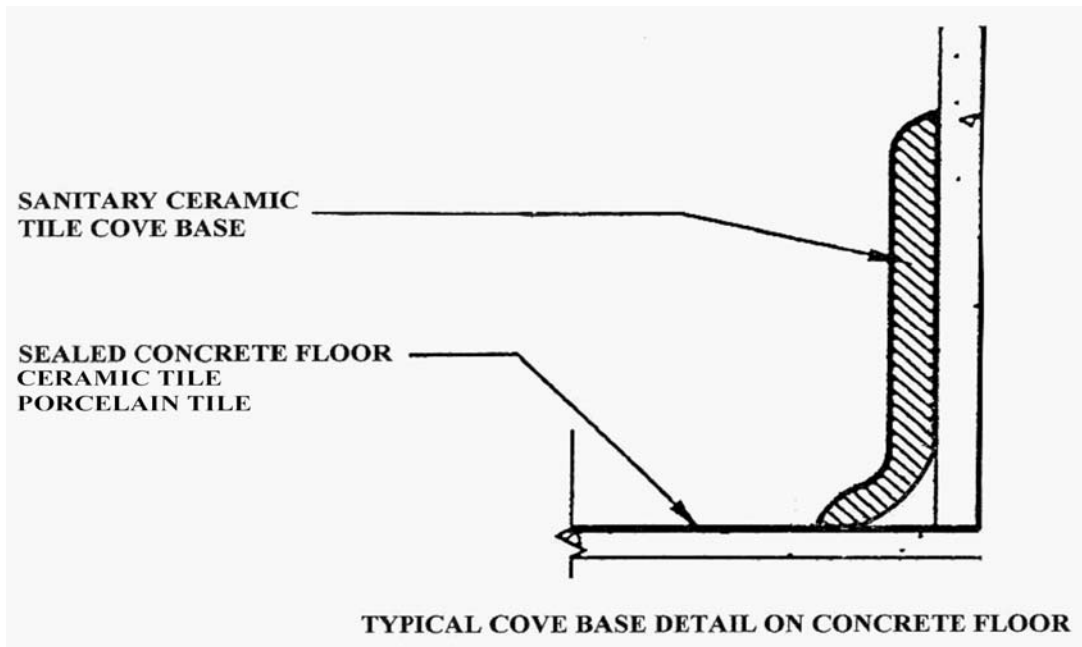
14600 S. Western Avenue
Gardena, CA 90249-3306
(B&W/S3619T)6" (B&W/S3419T)4"

(310) 538-9579

Dal Tile

7834 C.F. Hawn Freeway
Dalles, TX 752178

(214) 398-1411



FLOORING GUIDELINES FOR MARIN COUNTY

Flooring

Kitchens with cooking equipment (broilers, fryers, pizza ovens, etc.) and very heavy use facilities:

- Quarry tile
- Aggregate seamless troweled-on epoxy floorings (1/4-inch thickness minimum)
- Altro safety floor

Medium to light facility use (small restaurants and deli's, ice cream, mini-marts, etc.), areas with high moisture (around mop sinks, WAREWASHING), service counters and FOOD PREPARATION areas:

Above types:

- Quarry tile, ceramic or porcelain tile (with slip resistance)
- Aggregate seamless epoxy flooring (1/4-inch thickness)
- Homogenous sheet vinyl flooring with heat welded seams, .080 minimum thickness.

Food and food related storage, restrooms, lockers or other lower use areas:

Above types:

- Quarry tile, ceramic or porcelain tile (with slip resistance)
- Aggregate seamless epoxy flooring (1/4 inch thickness)
- Homogenous sheet vinyl flooring with heat welded seams, .080 minimum thickness.

Storage (dry storage in original containers only, i.e., warehouse areas of grocery stores) .

Above types:

- Concrete with an approved, water-base sealant.

Walk-ins and Reach-ins:

- Quarry tile or sealed concrete floor (with slip resistance)
- Aggregate seamless epoxy flooring (1/4 inch thickness)
- Concrete with an approved, 2-component water based epoxy concrete floor sealant.

NOTE:

Surface repellants must be reapplied at least once a year.

Epoxy grout shall be used with tile floor installations.

Non-skid tile or abrasive epoxy flooring SHALL BE LIMITED to walkway areas ONLY.

Smooth floor shall be installed under all equipment and on all base cove areas.

Preparation of the subfloor surface is often the issue when a floor prematurely fails.

Remove grease, dirt and chemicals that interrupt the sealing or adhering process.