

Multi-Clean®

METHOD BULLETIN 1420

**A complete guide for preparation,
application and recommended
maintenance for use with
Multi-Clean® coatings on
wood sports floors**

**Hi-Trac®
Final Floor®
First Round®
Pro-Floor® 100
Poli-Mirro™ 450
Crosslinker Catalyst
Hi-Polamur™ Sanding Seal**



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STOP - READ BEFORE PROCEEDING

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FOR INDOOR USE ONLY.

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REFINISHING WOOD FLOORS

Court Shield®

First Round Final Floor ProFloor 100

HOW TO FINISH NEW OR FRESHLY SANDED FLOORS

This procedure is for newly installed floors or floors that have had the old finish chemically stripped or sanded off.

For newly installed floors, follow the manufacturer's recommendations for floor preparation and acclimation period before sealing and finishing. **Note:** Some parquet floors should not be finished with polyurethane coatings. Check with floor manufacturer before using on parquet floors.

STEP 1: Floor Preparation

After the floor has been professionally sanded, the wood floor should be lightly screened using a single disc floor machine with a 120 grit mesh screen. Remove all dust residues by vacuuming or sweeping and then tack ragging the floor with towels dampened in waterless cleaner or plain water. **Note:** Make sure that all dust residues settle back to the floor before tacking, avoid drafts or cross breezes that may keep particles suspended.

A freshly sanded floor should not go unattended for any length of time. This is important especially under high humidity conditions to avoid excess moisture uptake by the floor.

STEP 2: Sealing with First Round

Before sealing the bare wood floor, the moisture content of the wood must be less than 10% and it is preferable that the humidity be less than 80%. Moisture content can be checked using a hand held moisture meter.

The prepared wood floor must be sealed using Court Shield First Round.

The sealer can be applied using a wood block applicator with a lambswool or flocked foam pad; or for fast application over large areas, the Padco Professional Floor Coater is recommended.

1. Apply the first coat of seal. Coverage will be up to 500-600 sq. ft./gallon.
2. Allow the seal to dry two hours. High humidity (above 70% R.H.) will extend the dry time 1-4 hours.
3. Lightly screen the first coat of seal to remove any raised wood grain using a 120 grit mesh screen. Keep the floor machine moving at all times to prevent marking of the floor (especially if screens are new).
4. Vacuum or sweep up dust (only after dust settles). Remove dust residue by tacking the floor at least twice. Tack rags should be prepared with waterless cleaner or plain water.
5. Apply the second coat of seal. Coverage will be up to 700 sq. ft./gallon.
6. Allow to dry two hours.
7. Buff the floor using a green pad or a 120 grit screen under a single disc floor machine. Use of a green pad rather than a screen after the second coat of seal is preferred because buffing dulls the seal to a lesser extent and allows better gloss build.
8. Tack rag the floor with towels prepared with waterless cleaner or plain water.
9. The floor is now ready for finishing and/or court markings.

STEP 3: Game Lines/Court Markings

Game lines or other markings should be applied after the second coat of seal has been buffed and tacked.

Use a high quality all acrylic latex gloss paint for applying all markings. Multi-Clean recommends Benjamin Moore's Impervex Latex Gloss Enamels. Remove all masking tape 20-30 minutes after line application. Do not use solvent-based paints for lining.

After the painted lines have been allowed to dry at least 12 hours, dry buff the lines with a green pad under a single disc floor machine.

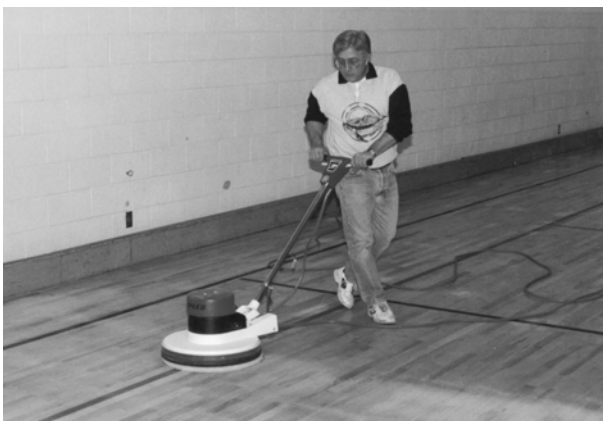
Tack rag the floor with towels dampened with clear water before applying the finish.

STEP 4: Finishing with Final Floor or ProFloor 100

The finish may be applied using the same tools used for sealing. Final Floor and Pro-Floor 100 use Crosslinker Catalyst in the last coat.

1. Apply the first coat of finish without catalyst. Coverage will be about 900 - 1000 sq. ft./gallon.
2. Allow the finish to dry a minimum two hours before applying the second coat. High humidity (above 70% R.H.) will extend the dry time an additional 1-4 hours. Note: Do not allow the first coat of finish to dry more than 6-8 hours before applying the second coat.
3. Note: If the first coat of finish has dried for more than 8 hours, follow the procedure under the heading "How to Prepare Previously Finished Floors".
4. Allow to dry. Prepare the last coat of finish for application by combining the crosslinker catalyst with the finish. Gently stir 1-2 minutes, then allow the product to set 10 minutes. The product may now be used **up to 24 hours** after mixing. Apply the last coat of catalyzed finish.
5. The floor may be reopened to light activity 24 hours after finishing. Longer periods of 3-5 days are recommended for heavy activity.

TIP: If possible, shut off the ventilation system in the gym during application of finish to minimize air borne dust settling into the wet finish. Turn back on when the finish begins to set to aid drying.



MAINTENANCE RECOAT (Dry Screen Method)

Follow this procedure when recoating over an existing finish. This method works with Court Shield waterborne products and Poli-Mirro 450. *Do not recoat floors that have been previously waxed. The waxes must be completely removed by sanding the floor.*

A yearly maintenance recoat will insure protection of the floor and rejuvenate appearance.

Step 1: Dust mop floor to remove dust, sand and debris. Carry a putty knife to scrape up gum or adhesive residue.

Steps 2-4 can also be used with Poli-Mirro 450.

Step 2: Preclean the floor with Hi-Trac. A sealed floor can be pre-cleaned with an automatic scrubber. Alternatively use Hi-Trac as a cleaning solution and tack-clean the floor.

Step 3: Roughen and dull the old finish by using a single disc machine (175 rpm) and a 120 grit screen. One screen is required for every 500 sq. ft (250 sq. ft./side) Overlap each pass slightly.

Step 4: Clean up dust residues by tacking the floor with clear water. Tack the floor until towels are completely clean and no more dust residue is present.

Step 5: Apply one coat of Final Floor or ProFloor 100 without catalyst using the PADCO Professional Floor Coater.

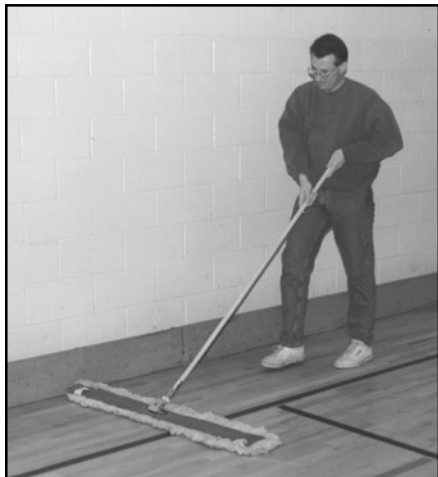
Important: Do not allow dry time to exceed 8 hours between coats, otherwise screening between coats will be required.

Step 6: Apply the last coat with catalyst added.

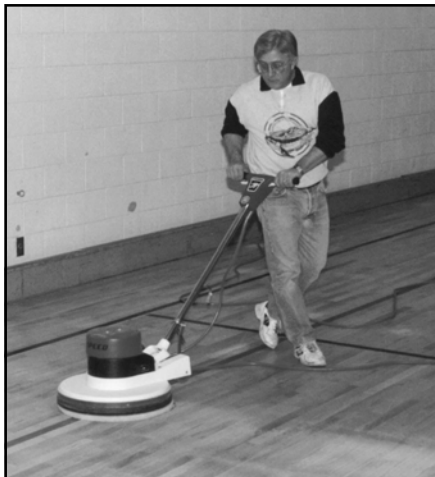
Note: Two coats are required. DO NOT apply more than 2 coats in any 72 hour period.

MAINTENANCE RECOAT: (Wet Screen Method)

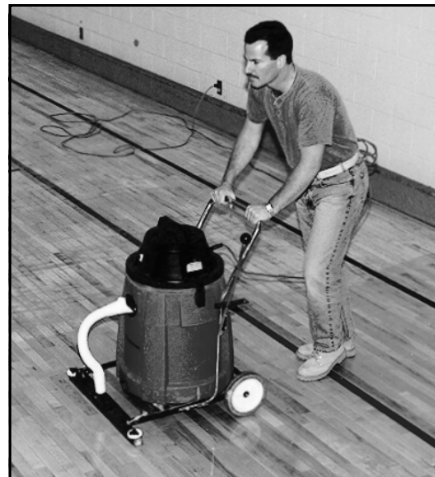
The Wet Method for preparing floors helps eliminate the fine airborne dusts created with traditional methods. Floors suitable for this labor saving method must have been previously sealed and finished. Do not use this method on bare wood or wood with gaps between boards greater than 1/8 inch.



1. After dust mopping, begin the process by applying a solution of Hi-Trac at 4-6 oz./gal. with a mop. Work a 20'x20' section.



2. Scrub the solution with a 120 grit screen under a 175 rpm floor machine. Overlap each area slightly. Flip screen after 250 sq. ft.



3. Immediately pick up solution with a wet/dry vac. Do not allow solution to dry on floor. Continue working 20'x20' areas. **Remember:** Change screens every 500 sq. ft.



4. Rinse floor with plain water and a well wrung out mop.



5. Tack the floor with plain water and large white towels to remove remaining residues. Repeat process until floor is clean.



6. Apply finish. For Court Shield waterborne products, wait 1 hour. For Poli-Mirro 450, wait overnight before applying.

The Wet Screen Method is suitable for use with Court Shield waterborne finishes.

HI-TRAC INTENSIVE CLEANING PROCESS

TO ENSURE BEST PERFORMANCE, DO NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS EXIST:

This process is only recommended for use with Final Floor.

New or freshly sanded wood: Final Floor is a finish and should not be applied directly to new, unsealed wood floors or floors that have been sanded to bare wood.

Peeling or poorly bonded finishes: If the previous finish is peeling, flaking or otherwise not adhering, Final Floor should not be applied.

Floors less than 2 years old: Manufacturers and installers of hardwood flooring typically do not recommend using automatic scrubbers on newly installed gymnasium flooring.

Heavy finish build up and soiled: If the floor exhibits a heavy buildup of finish and dirt and marks have been "sealed in."

Damaged floors with large gaps: Floors that are warped or have large gaps greater than 1/8 inch.

Parquet floors: Not recommended for parquet floors.

Contaminated floors: Floors that have been treated with oil or coated with wax, including paste wax.

PREPARATION INSTRUCTIONS *Preparation is critical to performance.*

1. **Sweep/Dust Mop Floor:** Use a large dust mop to collect sand, garbage and debris.



2. Always carry a putty knife or razor scraper to remove gum, labels and/or tape residue left on the floor. You can use **Mastery dL** to remove adhesive residue by applying a small amount to a cloth and rubbing the residue until it is removed.
3. **Hi-Trac Intensive Cleaning Procedure:** This is the most important procedure and must be followed EXACTLY.
 - a. Equip the automatic scrubber with black pads. Fill the solution tank with water and add **HI-TRAC** at a rate of 8 oz/gal.
 - b. Double scrub procedure: With the squeegee in the up position and vacuum off, begin scrubbing the floor with a solution flow rate about 1/2-3/4 the fastest rate. Walk slowly up and down the floor until 1000 sq. ft. are wet with cleaner solution.

- c. While the floor is wet, look for any deeply embedded shoe or ball marks and agitate with a hand pad if necessary.



- d. Scrub and pick up: Go back to the beginning and scrub the floor with the squeegee down and vacuum on to pick up cleaning solution. Do not dispense cleaning solution.
- e. Turn the black pad over and repeat steps b-d on the next 1000 sq.ft. Replace the black pad after scrubbing 2000 sq.ft.

4. **Scrub Rinse Procedure:** This procedure insures all residues are removed and the floor is ready for coating.
 - a. Empty the solution tank of any remaining cleaning solution, and fill with clear water. Add **Century Maintenance** as a rinse aid at a rate of 1 oz/gal.
 - b. Scrub the floor with the automatic scrubber using a black pad dispensing the rinse solution at 1/2 the fastest rate. *Note:* You do not need to change the black pad during this process.
 - c. Fill a mop bucket with water and add 1 oz/gal Century. Using a clean mop, rinse corners and edges where the automatic scrubber has difficulty reaching.

5. **Tack Procedure (Optional):** If the prepared floor is left for several hours or overnight prior to coating this is highly recommended. Fill a mop bucket with plain water. Place 1-2 large white towels in the solution. Wring out a towel so that it is damp, wrap around a broom and push across the floor to remove any remaining residue.



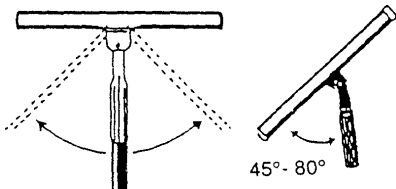
The floor is now ready for coating with Final Floor.

APPLICATION WITH THE PROFESSIONAL FLOOR COATER

The Professional Floor Coater is ideal for applying Court Shield finishes. The application is fast and results in uniform coverage. It is available in 18 and 24 inch lengths.

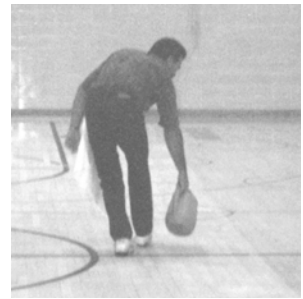


Preliminary: You should have a plastic garden sprinkling can that can hold 1-2 gallons of product. Your Professional Floor Coater equipped with a new clean pad and handle should be ready. Angle the Floor Coater head to approximately 45 degrees. Tighten the nut so it doesn't move. Plan your start point on the farthest side of the gym and your end point at the most convenient exit.

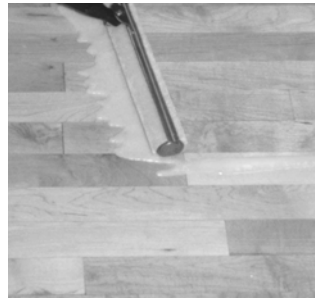


- Step 1: Slide pad over applicator head, Set head at 45 degrees.
- Step 2: Begin applying product, use a garden type sprinkling can (sprinkler head removed) to pour product onto the floor.
- Step 3: Continue pouring and applying product across the floor.
- Step 4: About 4-5 passes from the planned exit, apply product more sparingly. Do not let the applicator dry out, otherwise streaks will result. On the last run, if excess product is on the floor, use towels to absorb the excess. DO NOT attempt to feather excess product onto the floor, puddles will result.

Step 1. Begin applying product along the far wall. Apply a line about 3-4 inches in width down the length of the gym about 6 inches from the wall edge.



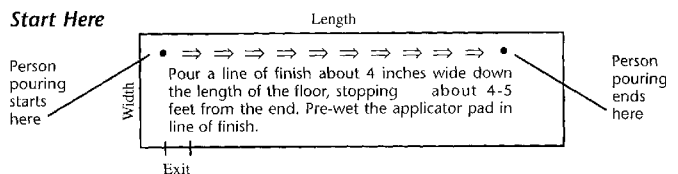
Step 2. Pre-wet the applicator in the line of finish then begin applying by pushing the excess finish toward the opposite side of the floor. Continue pouring and applying product across the floor. Take care not to allow excess product to flow off the opposite end of the applicator on turns at the end of each run. If this happens, gently squeeze out excess material from the applicator, then gently feather out the excess material on the floor.



Step 3. About 4-5 passes from the planned exit, pour product onto the floor more sparingly. Do not let the applicator dry out, otherwise streaks will result. On the very last run, if excess product is on the floor, collect it near the exit point and soak up with towels or rags. Do not attempt to feather this excess product unto the floor.



Step 4: Allow the floor to dry 1-3 hours depending on air flow and humidity. Reapply a second coat as recommended.



The floor may be opened to normal traffic after the coating has cured a minimum of 24 hours.

REFINISHING WOOD FLOORS

Hi-Polamur Sanding Seal Poli-Mirro 450

HOW TO PREPARE A GYM FLOOR FOR FINISHING

New Floor: Allow the newly installed wood floor to dry out at least six weeks before finishing. The new floor then must be sanded prior to sealing and finishing.

Sanding

Sanding requires professional sanders or experienced maintenance people to do a good job. One improper sanding can ruin a floor.

If the cut is too deep, down to the tongue and groove, splintering will occur and the floor's structural strength will be lost.

1. Remove the quarter-round moldings. Sweep or vacuum the floor to remove excess dirt and soil, as it will clog the sandpaper.
2. Make the first cut with the grain, using #2 1/2 sandpaper for new floors and open coat sandpaper for old floors. Do all trim work with an edger, using the same sandpaper grade. Sweep or vacuum to remove dust.

NOTE: Do all sanding with a drum sander. When operating the sander, keep it moving at all times or it will cut deep ruts into the floor.

3. Use #1 1/2 sandpaper for the second cut, sanding with the grain. Vacuum or sweep to remove dust.
4. Use #00 sandpaper for the final cut, sanding with the grain. Make certain when sanding old floors that all the old finish is removed by the end of the third cut. Screen floor with #120 grit screen. Vacuum or sweep to remove dust. Go over the floor with a tack rag at least twice.

How to Finish New Sanded Floors

After an old seal is sanded, the bare wood floor should not go unattended for any length of time before sealing. This is especially important during high humidity conditions to prevent excess moisture uptake by the wood floor.

A bare wood floor must be sealed with a sanding sealer. Hi-Polamur sanding seal penetrates the wood and creates a base for applying finish.

Do not apply seal to the bare wood floor if the moisture content of the wood is above 10%. Check and document the moisture content of the floor using a hand held moisture meter before sealing.

When applying sealer and finish, use a lambswool applicator. Apply across the grain, then pull out with the grain.

1. Apply one coat of Hi-Polamur Sanding Seal. Allow it to dry 18-24 hours with adequate fresh air ventilation. Buff the floor with #120 grit abrasive screen under a floor machine (maximum of 250 sq. ft. per side of screen). After buffing, then tack rag at least twice.
2. Apply a second coat of the product. Allow to dry 18-24 hours. Buff again with #120 grit abrasive screen, vacuum, then tack rag at least twice.
3. Lay out the court with masking tape as required for specific athletic activities. Apply the marking enamel with a paint brush and allow it to dry at least 24 hours. Remove tape within one hour after painting.
4. After minimum of 24 hours dry, lightly machine buff lines with #0 steel wool or a used 120 grit screen.
5. Apply the first coat of Poli-Mirro 450 in the same manner as Hi-Polamur Seal. Allow the finish to dry at least overnight. No screening is required if the product is recoated with the specified recoat interval.

Recoat Interval

Poli-Mirro 450, 17-24 hours (maximum 3 total coats)

6. Apply the second coat of Poli-Mirro 450. Allow at least 24 hours drying time prior to subjecting the floor to light traffic. Allow 72 hours drying time or longer prior to athletic activities.

Recoating Finished Floors

Use the method on page 2 or page 3 for Maintenance Recoating.

Marking Enamels

Multi-Clean recommends Benjamin Moore Impervo Gloss Enamels.

Apply game line enamel. Allow to dry overnight (12 hours minimum). Lightly roughen surface with a used 120 grit screen or green pad. Clean up dust residues, then apply Poli-Mirro as directed.

How to Avoid a Bad Finish

- Use applicators which are absolutely clean.
- Never attempt to rub the finish into the wood. Always flow it on in thin even coats.
- Two thin coats of finish will give better results than one heavy coat.
- Thoroughly clean application equipment with solvent after each application of finish.
- Make certain there is fresh air ventilation for proper drying and provide a "dust-free" atmosphere.
- Allow final coat to dry at least 72 hours before subjecting floor to gymnasium activity.
- Soaps or gritty scrubbing powders should not be used in your preparation procedures because they are difficult to rinse and can result in product failure.
- Check all equipment prior to use and clean it immediately after use.
- Clean every lambswool applicator before using. New applicators often contain loose fibers which could mar the appearance of the coating.
- If a dance wax or solvent-based wax has been used, it will not be removed by water scrub method. Scrub repeatedly with WATERLESS WOOD FLOOR CLEANER and pick up immediately.
- All vertical surfaces in the gym (bleachers, etc.) should be wiped clean to insure a dust-free atmosphere.
- Prior to the use of any cleaning procedure, remove all gum and other built-up soil.

Court Shield HI-TRAC Maintaining Wood Floors

To keep finished wood floors looking their best and maintain a high traction surface, Multi-Clean has developed Hi-Trac. Safe for sealed wood floors, Hi-Trac is effective at cutting oily residues that can make floors slippery, and it will not leave a dulling residue.

Daily/Weekly

Dust mop daily with an untreated mop to remove debris and abrasive dirt and soils.

Clean using **Hi-Trac** at 2-6 oz./gallon by: Autoscrubbing or tack cleaning or light damp mopping.

Monthly

Deep scrub to remove oily deposits, black marks, etc. using **Hi-Trac** at 16 oz./gallon. Use an autoscrubber or floor machine and wet dry vacuum.

Yearly Recoat

Dry Screen Method: Pre-clean floor using Hi-Trac at 24 oz./gallon in an autoscrubber or by tacking. Allow to dry. Screen floor as usual to prepare surface for coating.

Wet Screening: Use **Hi-Trac** at 8 oz./gallon in a spray bottle during screening to keep airborne dust to a minimum.

HOW TO PREPARE A TACK RAG

To insure a high quality appearance to the finish, the floor must be free of all traces of fine dust particles. A tack rag is excellent for picking up fine dusts that vacuums can miss as well as oily residues.

To prepare a tack rag:

1. Use a lint free, absorbent-type cloth such as heavy toweling. Fold the cloth lengthwise several times.
2. Pour the recommended tacking solution onto the towel and wring out as dry as possible.
3. Wrap the towel around a large, clean, push-broom.

Push the broom along the floor making sure to change the position of the cloth on the broom frequently to insure maximum dust pick-up and cleaning efficiency.

RECOAT CALCULATOR GUIDE

STEP 1:
MEASURE FLOOR SURFACE
(Multiply length x width for square footage)

STEP 2:
**MATERIALS CHECKLIST OF
EQUIPMENT AND PRODUCTS NEEDED**

A. Products

- ___ Hi-Trac (no rinse, cleaner)
- ___ ProFloor 100 (gym finish)
- ___ Final Floor (gym finish)
- ___ Dust Fast Dustmop Treatment
- ___ Poli-Mirro 450
- ___ Hi-Polamur Sanding Seal
- ___ First Round
- ___ Crosslinker Catalyst

B. Equipment

- ___ Low speed single disk machine with pad driver
- ___ Wet/dry vacuum
- ___ (4) Mop buckets with wringers
- ___ (3) Mops with handles
- ___ 120 Grit screens (1 per 500 sq. ft.)
- ___ (4) Blue pads
- ___ (2) - 50 ft. Extension cords
- ___ Putty knife
- ___ 5 lbs. Turkish toweling
- ___ ¾" masking tape (if lines are to be patched)
- ___ 2" Paint brushes (for line touch-up)
- ___ Padco floor coater
- ___ Pour can
- ___ (2) Floor coater refills
- ___ Push broom
- ___ Dust mops

STEP 3:
**PRODUCT ESTIMATE
FOR SCRUB AND RECOAT**

A. Preparation

___ divided by 6,000 sq. ft./gal. = ___ Hi-Trac
(sq. ft.) (gallons)

B. Seal Application

___ divided by 400 sq. ft./gal. = ___ Hi-Polamur
(sq. ft.) (gallons)

___ divided by 600 sq. ft./gal. = ___ First Round
(sq. ft.) (gallons)

C. Finish Application

___ divided by 900 sq. ft./gal. = ___ Final Floor
(sq. ft.) (gallons)

___ divided by 600 sq. ft./gal. = ___ Poli-Mirro 450
(sq. ft.) (gallons)

___ divided by 900 sq. ft./gal. = ___ ProFloor 100
(sq. ft.) (gallons)

D. Catalyst Requirements

(Final Floor or ProFloor 100 only)

___ ÷ ___ = ___
(gallons finish) (# of coats) (Qty. of Catalyst needed)

STEP 4:
**PRODUCT ESTIMATE
FOR MAINTENANCE**

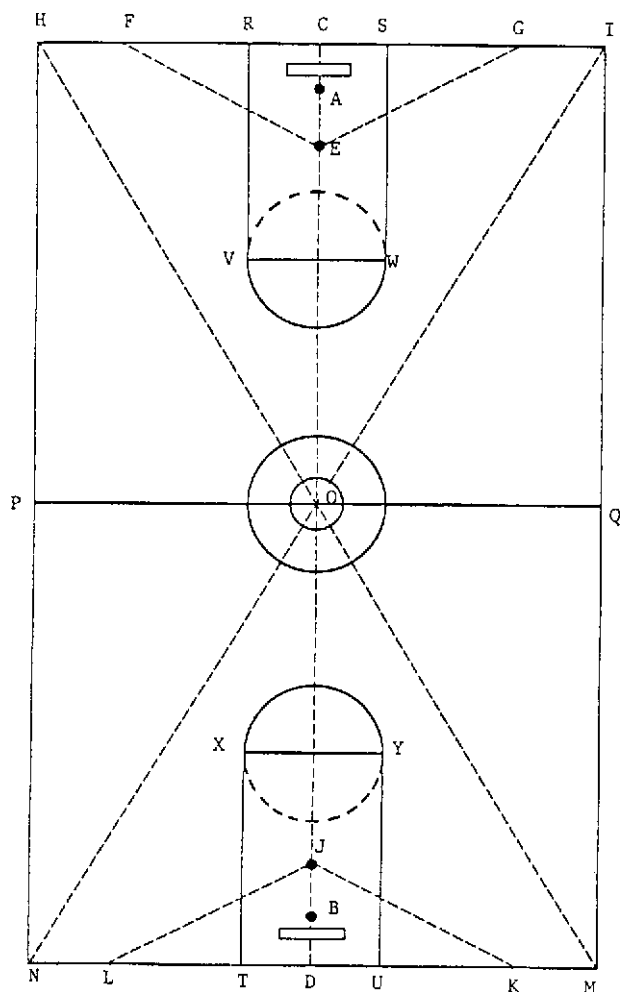
___ Gallons of Hi-Trac
(need 2 gallons per 10,000 sq. ft. per month)

___ Gallons of Dust Fast Dustmop Treatment
(need 5 gallons per 5,000 sq. ft. per year)

LAYOUT AND LINING OF A BASKETBALL COURT

Material & Equipment

- * An accurate diagram of the gym floor specifying all dimensions and measurements
- * 8-10 rolls of three-quarter inch masking tape and a good quality taping machine
- * A plumb bob with 15 feet of cord
- * Chalk line about 150 feet and white chalk
- * A high quality paint brush for lining (1.5" or 2" width)
- * High gloss, fast drying marking enamel (specify colors necessary.)
- * Carpenter's square
- * 100 foot steel tape measure
- * Pencil ("B" soft lead)
- * Hammer
- * Hand or push drill, 1/16" & 1/8" drill bits
- * 6-penny finishing nails
- * 18-penny casing nails
- * Straight edge
- * Quality cutting tool for cutting masking tape
- * A steel square for checking all corners
- * 2x4 piece of lumber 6 1/2" long



PROCEDURES

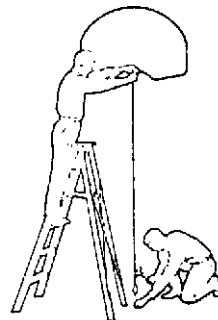
Old Court

When relining and refinishing an old court, if the lines are correct, make a nail hole at all corners of the court, and at the exact center of all circles. This will allow you to reline without remarking the court.

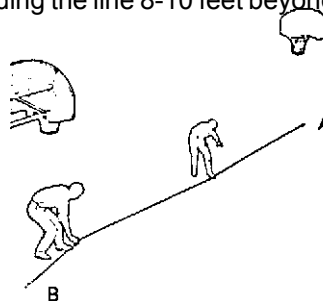
New Court

When lining and finishing a new court or when relining an old floor before refinishing, follow the procedures listed and diagrammed below. For proper court layout and measurements refer to appropriate court diagrams. (High school, College, NBA or International.)

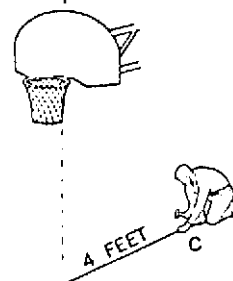
1. Begin court layout by making sure that the backboards are in the game position. All subsequent measurements and markings are predicated on this very important initial step.
2. From the center of the face of each backboard, drop a plumb line and mark points A and B with chalk.



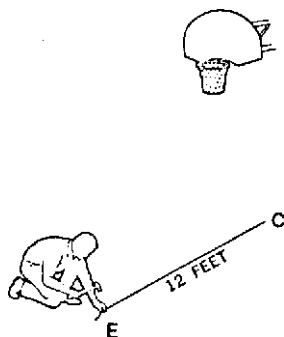
3. Snap a chalk line through these two points, A and B, extending the line 8-10 feet beyond them.



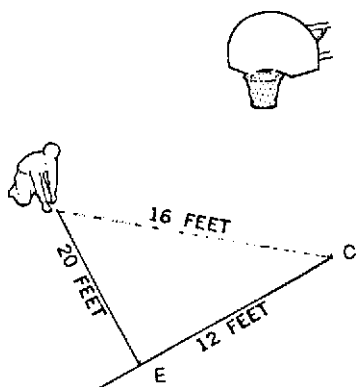
4. From point A measure back toward the baseline 4 feet and chalk mark point C.



5. From point C measure 12 feet toward the center court to point E and lightly tap a small nail. Drive the nail only deep enough so that it is firm.



6. From point C measure 16 feet to the side and with chalk strike an arc.



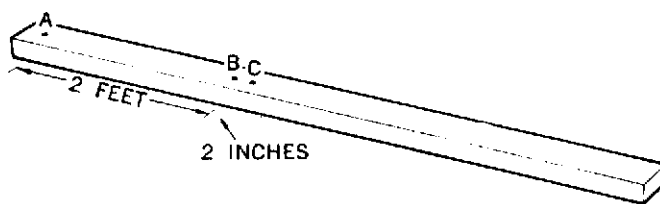
7. From point E measure 20 feet toward the baseline and with chalk strike another arc. Where the two arcs intersect is point F. Repeat this procedure on the opposite side for point G.
8. Snap a chalk line through points F, C and G, extending the line well beyond points F and G. You have now formed the court base-line.
9. From point C measure out the base-line 25 feet in each direction and chalk mark points H and I.
10. At the opposite end of the court, repeat Steps 4-9 for points J, D, N, L, K and M.
11. Snap a chalk line between points H and N. Repeat procedure on opposite side of court between points I and M. These lines form the side lines of the court.

12. To find the center of the court, join the corners diagonally with a chalk line, H to M and I to N. Chalk mark this point O. Verify this point as the court center by measuring the distance from O to C and O to D. These measurements must be the same.

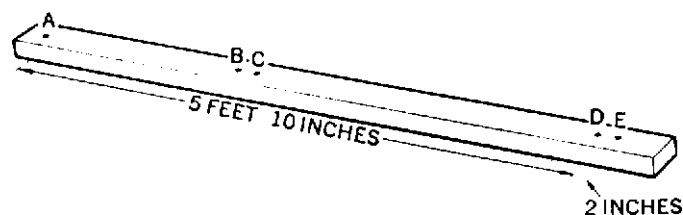
13. On court side lines measure distance determined by O to C and O to D and chalk mark points P and Q.

14. Snap a chalk line connecting points P, O and Q. This forms the center line of the court.

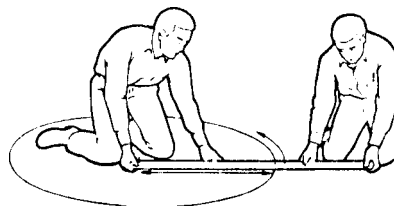
15. Using point O as the center, draw the center jump circle (2 foot radius), then the outer circle (6 foot radius) as follows:



* Bore 1/16" hole A an inch from the end of a 2x4. Bore hole B, exactly on center, 2 feet from center of hole A and hole C, exactly on center, 2 inches from hole B. Hole B and C should provide a snug fit for soft lead pencil. The pencil points should be exactly 2 inches apart. The point of pencil B should be exactly 2 inches from the center of hole C.



* Place nail in hole A in the exact center of the court and have someone hold the 2x4 while you mark out the circle. The inside measurement should now be exactly 2 feet to the center of the court. (International court markings are an exception, see diagram for specifics.)



* Exactly 5 feet 10 inches, from center of hole A bore hole D. Two inches from center of hole D bore hole E. Center of hole E should be exactly 6 feet from the center of hole A. Now place soft lead pencils into holes D and E. The points of the pencils should be exactly 2 inches apart. Have someone place nail in hole A in the exact center of the court and steady the 2x4 while you scribe the outside circle. The inside measurements should be exactly 5 feet 10 inches from the center of the court.

16. From point C measure 6 feet in either direction along the baseline and chalk mark points R and S. Repeat at the opposite end of court for points T and U.
17. Snap a chalk line between points R and T. Repeat between points S and U.
18. From point R measure 19 feet along line RT and mark point V. Repeat from point S for point W from T for point X and from U for point Y.
19. Snap a chalk line between points V and W, and points X and Y to form the two free-throw lines.
20. The intersection of line CD with lines VW and X Y is the center point of the two free throw lines.

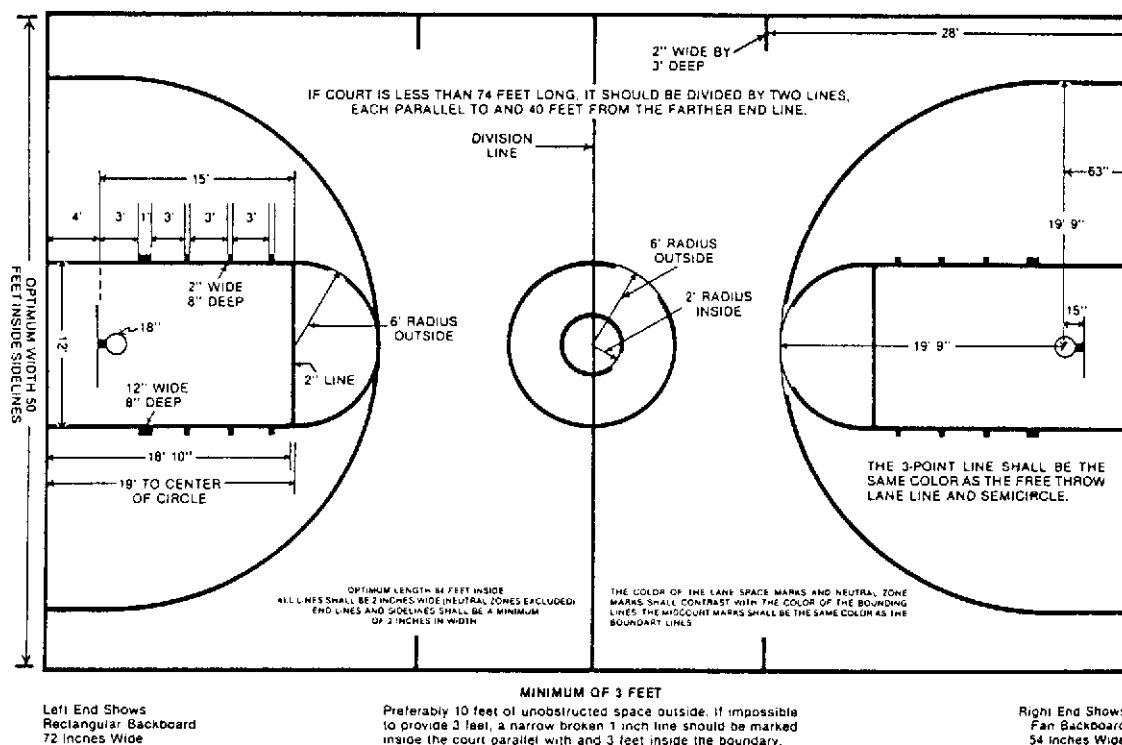
21. Draw the two free throw circles, each with 6 foot radius. The half of the circle away from the basket is solid and the half of the circle toward the basket is broken. The broken line has 8 marks, 16 inches long and 7 spaces 14 inches long. (See specific court diagrams for details.)
22. Using the appropriate basketball court diagram, install the restraining lines along each side of both free throw lanes. Then install the 2"x3" offensive court lines along each side line at both ends of the court.
23. Before painting lines, verify all measurements to make certain they are correct and accurate.

Marking

When marking a gym floor follow these instructions carefully:

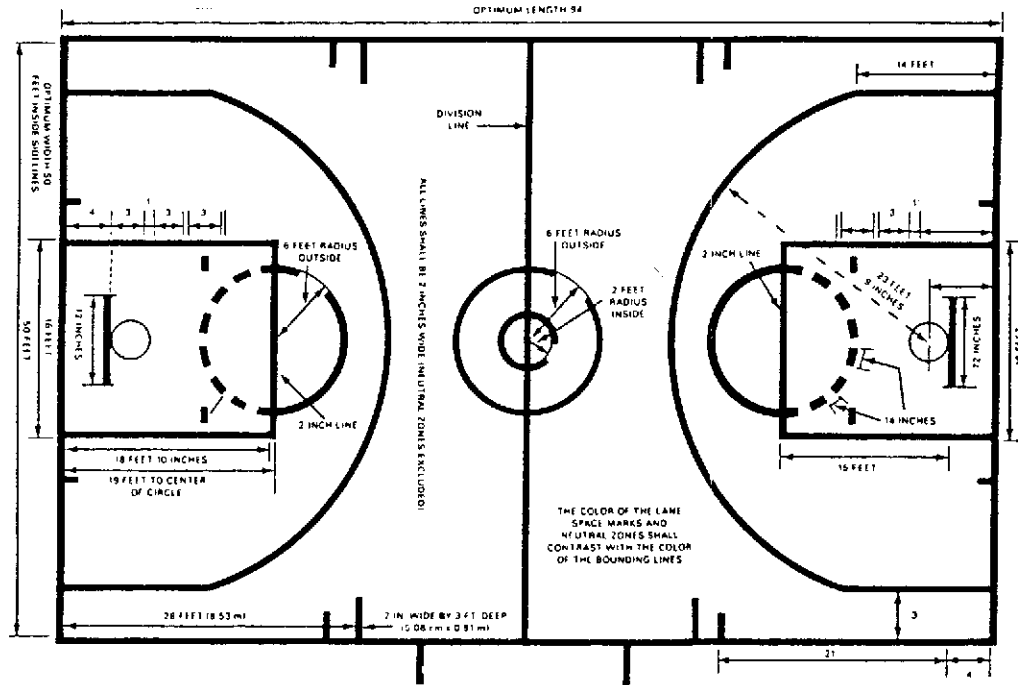
1. Use a good tape marking machine.
2. When applying paint, do not allow it to pool.
3. Allow the paint to dry over night.
4. If you allow more than 24 hours dry time, scrub the lines with #120 grit screen to insure adhesion of the finish.
5. Remove the line marking tape 2-4 hours after painting.
6. Remove all chalk lines before lining.

BASKETBALL COURT DIAGRAM HIGH SCHOOL

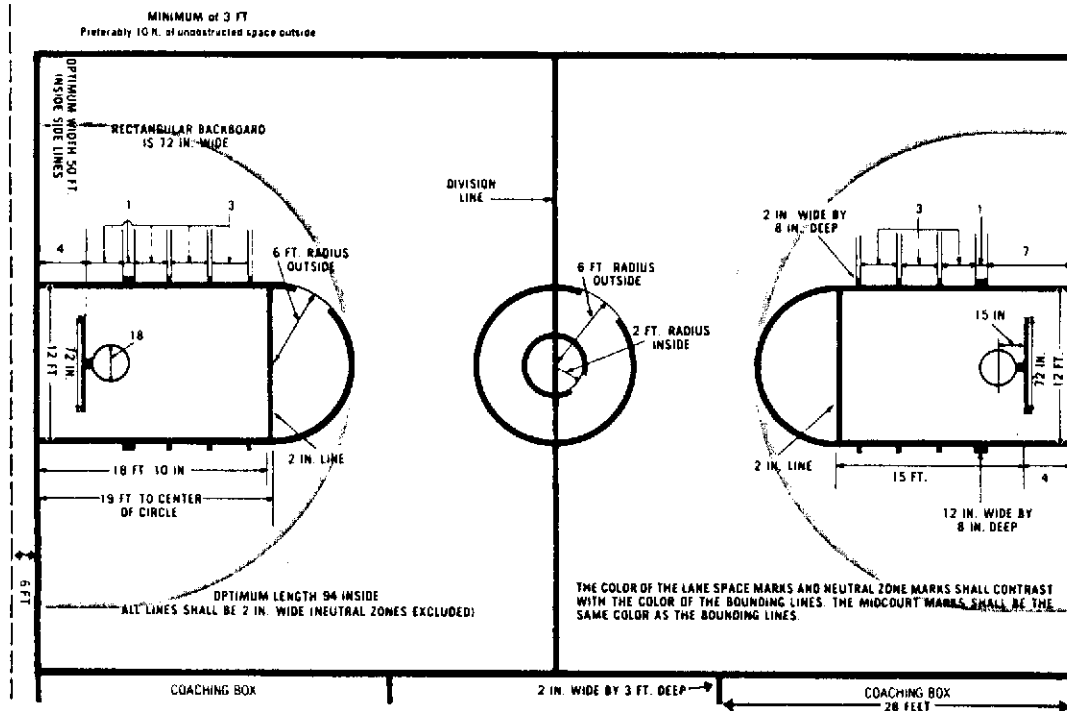


BASKETBALL COURT DIAGRAM

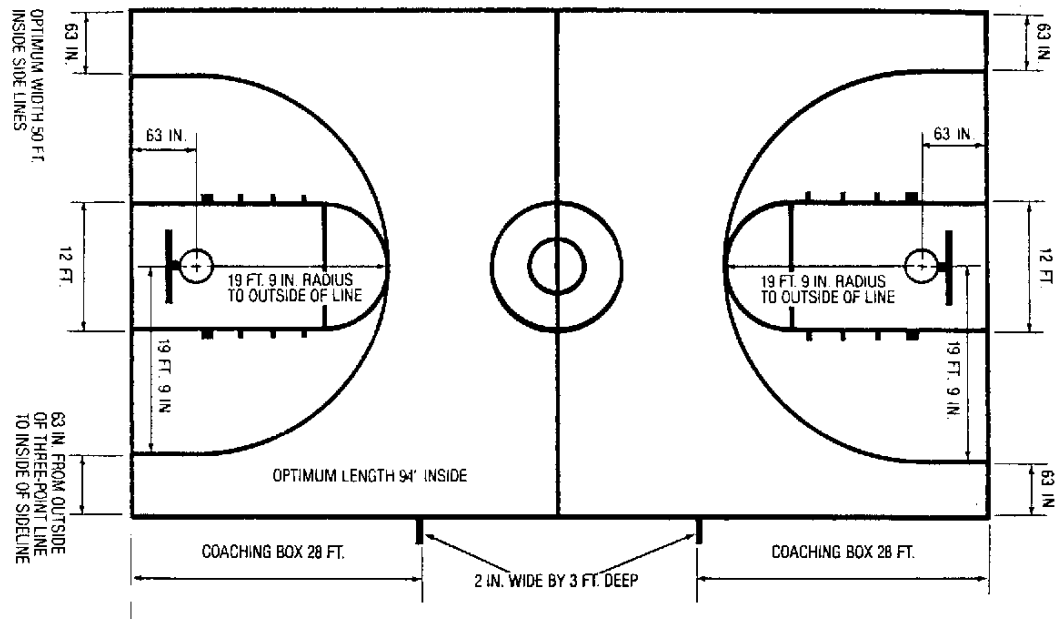
NBA



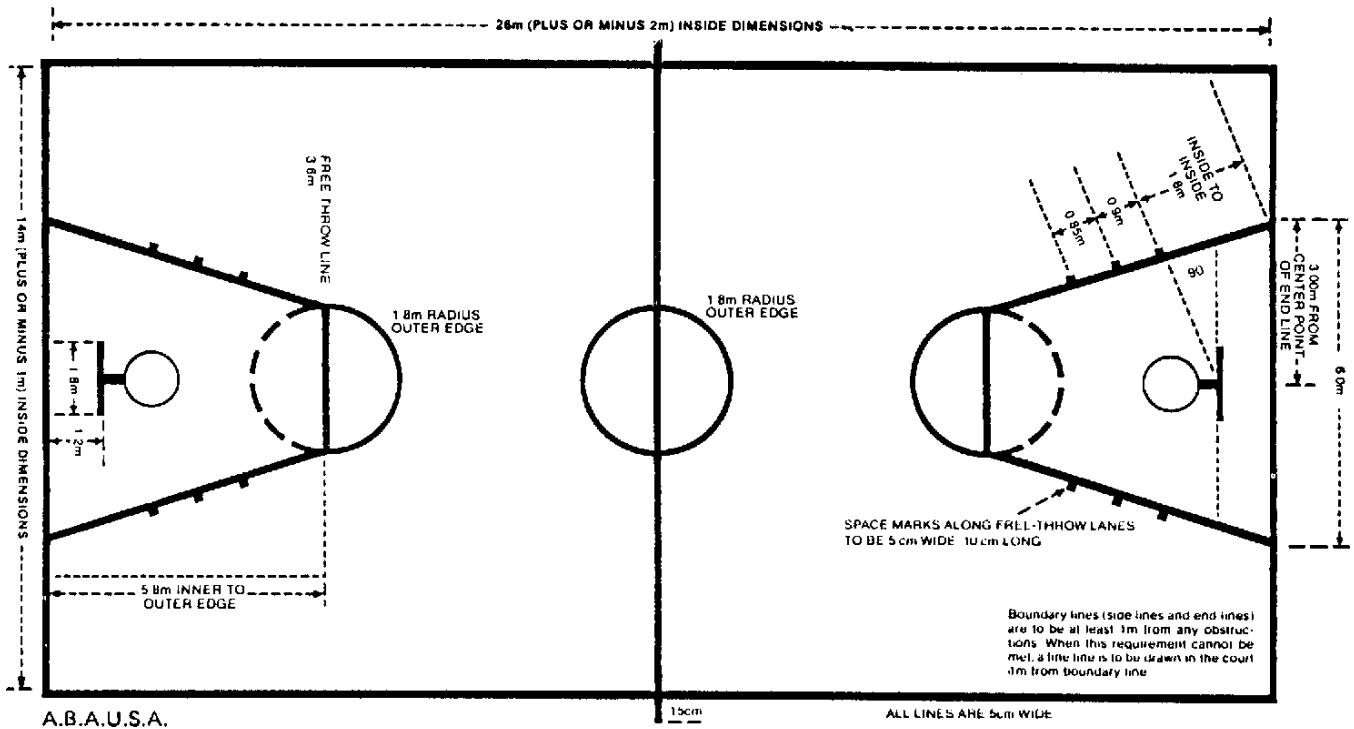
NCAA



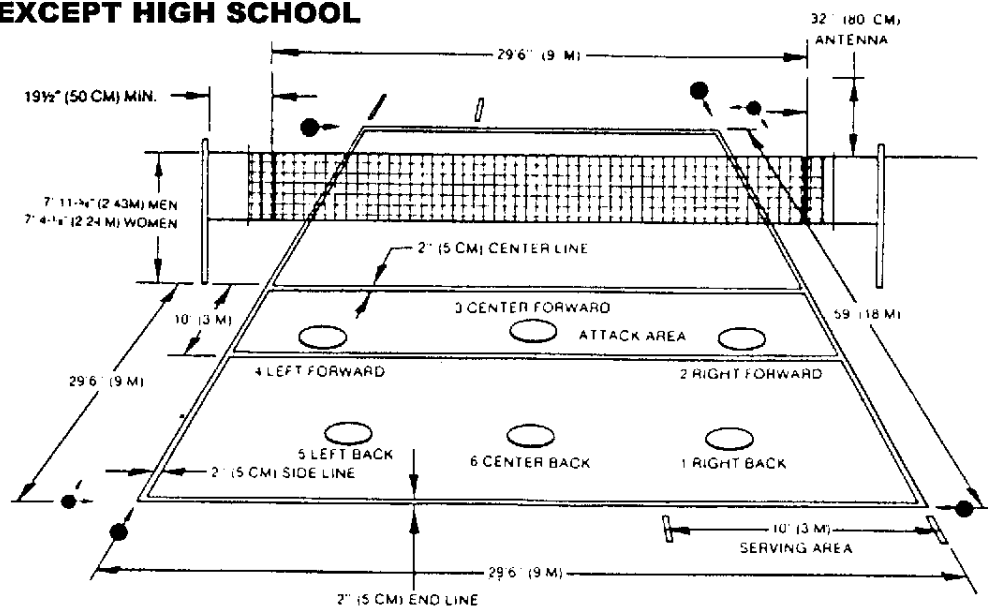
THE THREE-POINT FIELD GOAL LINE



INTERNATIONAL OLYMPIC BASKETBALL COURT



ALL VOLLEYBALL COURT MARKINGS INCLUDING INTERNATIONAL (OLYMPIC) EXCEPT HIGH SCHOOL



NOTE

- INDICATES POSITION OF LINESMAN WHEN FOUR ARE USED
- INDICATES POSITION OF LINESMAN WHEN TWO ARE USED

United States Volleyball Association
Guide 1979

HIGH SCHOOL VOLLEYBALL COURT RULES 1979 National Federation of State High School Associations

SECTION 2 The Court and Markings

*ART 1.....The Court shall be 60 feet long and 30 feet wide, including the outer edges of the boundary lines. An area above the court which shall be clear of any obstruction and at least 30 feet high is recommended.

*ART 2.....It is recommended all boundary lines shall be of one clearly visible color.

*ART 3.....Boundary lines shall be 2 inches wide and at least 6 feet from walls or obstacles. The endlines are the boundary lines on the short sides of the court. The sidelines are the boundary lines on the long sides of the court.

*ART 4.....A center line, 4 inches wide, parallel to and equidistant from the endlines, shall separate the court into two playing areas.

*ART 5.....A spiking line, 2 inches wide, shall be drawn across each playing area from sideline to sideline, the midpoint of which shall be 10 feet from the midpoint of the center line and parallel to it.

*ART 6.....A serving area shall be provided beyond each endline. Each shall be demarcated by two lines 6 inches long by 2 inches wide, beginning 8 inches beyond the endline and drawn perpendicular to it, one on the extension of the right sideline and the other 10 feet left of the extension. Each serving area shall be minimum of 6 feet in depth. In the event that such a space is not provided by the physical plant, the serving area shall extend into the court to whatever distance necessary to provide the minimum depth and be so marked.

* See Situations and Rulings

HIGH SCHOOL VOLLEYBALL COURT

NOTE
ALL LINES ARE 2" (5.1 CM) WIDE
EXCEPT CENTER LINE WHICH
IS 4" (10.2 CM)
*7' 4 1/4" (224.2 CM) FOR
WOMEN

● INDICATES POSITION
OF LINESMAN WHEN
FOUR ARE USED

FLOORS WITH MULTIPLE
GAME MARKINGS SHALL
HAVE A VOID BETWEEN
INTERSECTING GAME LINES.

