

Florida Plumbing Codebook

JD Plumbing

Contents

General Regulations	3
This chapter sets the ground rules for how plumbing must be installed across the board — even if later chapters go into specifics.	3
Key Points:	3
Tips:	3
Protect against corrosion when dissimilar metals touch (like copper and galvanized).	4
Fixtures, Faucets & Fixture Fittings	4
Key Points:	4
Drippy Pro Tips:	5
Floor drains in commercial restrooms must be trap-primed. .	5
Water Heaters	5
Key Points:	5
Drippy Pro Tips:	6
Drain pans should have a 3/4" drain line run to an obvious drainage spot — not hidden behind a wall.	6
Water Supply & Distribution	6
Key Points:	6
Drippy Pro Tips:	7
Use dielectric unions when mixing copper and steel.	7
Sanitary Drainage	7
Key Points:	7
Drippy Pro Tips:	7
Chapter 8: Indirect & Special Waste	7
Key Points:	8
Drippy Pro Tips:	8
Chapter 9: Vents	8
Key Points:	8
Drippy Pro Tips:	8
Traps, Interceptors & Separators	9
Key Points:	9
Drippy Pro Tips:	9

Chapter 11: Storm Drainage	9
Key Points:	9
Drippy Pro Tips:	10
Chapter 12: Special Piping & Storage Systems	10
Key Points:	10
Drippy Pro Tips:	10
Chapter 13: Nonpotable Water Systems	10
Key Points:	10
Drippy Pro Tips:	11
Appendix C – Structural Safety	11
Note: These rules only apply if your local code has adopted them.	11
C101 – Cutting, Notching & Boring in Wood and Steel Members	11
No boring where there’s also a notch in the same section.	12
C101.4 Structural Steel Framing	12
Stay at least 10” away from the support end	12
Pro Tips:	12

Florida Plumbing Code – Laymen’s Guide (Appendix E) 12

Appendix E: Sizing of Water Piping System	12
□ Section E101: General Concepts	13
□ Section E102: Information You’ll Need	13
□ Section E103: Pipe Sizing via Segmented Loss Method	13
□ Table E103.3(2): Fixture Unit Load Values	14
□ Table E103.3(3): Estimating Total System Demand	14
□ Table E201.1: Minimum Pipe Sizes (Based on Fixture Units & Pressure)	15
□ Table E202.1: Pipe Volume (Ounces per Foot)	15
□ Friction Loss Reference (Valves & Fittings)	15

Preface This project started as a side effort to fix something that’s been bothering me for years: the Florida Plumbing Code is legally binding, but unless you pay for an ICC subscription or know how to dig through technical-ese, it’s almost impossible to actually read. That’s a problem — especially for regular folks trying to do right by their homes and families.

This version strips the legal jargon and replaces it with plain language. It’s not a substitute for the official codebook, and it’s not legal advice. But it is an accessible reference: for homeowners, for DIYers, and for anyone who just wants to check whether the “deal” they’re being offered sounds like BS.

If this helps even one person avoid a botched install or a dishonest contractor, it’s worth it.

Plumbing affects safety, health, and wallets. Understanding the ba-

sics shouldn't require a subscription, a license, or a lawyer.

— JD

General Regulations

This chapter sets the ground rules for how plumbing must be installed across the board — even if later chapters go into specifics.

Key Points:

- **Plumbing Installations Must Be Safe:** Don't damage walls or structure during install. Support everything properly.
 - **Fixtures Must Drain Properly:** Every plumbing fixture needs to be connected to the drainage system.
 - **Prohibited Connections:**
 - Don't connect waste pipes directly to drinking water pipes.
 - No cross-connections unless there's backflow protection.
 - **Installation Must Be Permanent:** Don't rely on temporary hoses or flexible tubing where permanent pipe is required.
 - **Protect Against Freezing & Damage:** Pipes must be insulated or protected if they might freeze.
 - **Water Hammer Arrestors:** Install these at quick-closing valves (like washing machines) to prevent banging pipes.
 - **Pipe Support Required:** Pipes must be supported at regular intervals so they don't sag or break.
 - **Marking & Identification:** Pipes should be labeled so you know what they carry (especially if multiple systems run together).
 - **Toxic Materials Banned:** Don't use lead or other harmful substances where they could contact potable water.
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Tips:

- Use mechanical sleeves or shields where pipes go through metal studs or framing.
-

Protect against corrosion when dissimilar metals touch (like copper and galvanized).

Fixtures, Faucets & Fixture Fittings

This chapter covers everything about the **things people interact with**: sinks, toilets, faucets, and how many are required.

Key Points:

General Rules:

- Every building must have enough fixtures (toilets, sinks, etc.) based on how it's used (home, business, etc.).
- Fixtures must be made from durable, approved materials and installed to stay clean and functional.

What's Not Allowed:

- No toilets that hide the trap or don't fully rinse the bowl.
- Don't connect a plumbing fixture in a way that risks backflow.

Installation Must-Haves:

- Provide proper clearance around fixtures (e.g., space around a toilet).
- Make sure fixtures drain well and have proper water supply shut-offs.
- Public restrooms need partitions and privacy setups.

Accessibility:

- Some fixtures must follow ADA (Americans with Disabilities Act) requirements — like height, space, and faucet type.

Fixture Materials:

- Must be smooth, non-absorbent, and easy to clean.
- No wood or porous materials that can rot or harbor bacteria.

Water Efficiency:

- Toilets and faucets must meet water-saving standards (e.g., low GPF toilets).
- No fixtures that use more water than allowed by code.

Drippy Pro Tips:

- Use anti-scald devices in showers.
-

Floor drains in commercial restrooms must be trap-primed.

Water Heaters

This chapter covers how to install and safely operate water heaters, including combo units that heat both space and water.

Key Points:**Basic Requirements:**

- Water heaters must be made of approved materials and installed safely, following manufacturer instructions and code.
- They must have all required safety devices: pressure relief valves, proper venting, and shutoffs.

Combo Systems:

- If a water heater is used for both home heat and hot water, and it goes over 140°F, it must include a **mixing valve** to prevent scalding at faucets.

Temperature & Pressure (T&P) Relief:

- Every water heater needs a T&P relief valve.
- The drain line must go to an approved location (not just any bucket or floor).

Location Rules:

- Heaters can't be in places where leaking could cause damage unless there's a **drain pan and overflow line**.

- Some locations (like attics or garages) need extra precautions, like safety pans and elevation.

Access & Maintenance:

- Make sure the heater is easy to get to for inspection and service.
- Gas models must have proper combustion air and sealed venting.

Drippy Pro Tips:

- Always install earthquake straps in seismic zones.
-

Drain pans should have a 3/4" drain line run to an obvious drainage spot — not hidden behind a wall.

Water Supply & Distribution

This chapter explains how water (hot and cold) is brought into a building and safely distributed to fixtures.

Key Points:

- **General Scope:** Applies to all water supply systems — including private wells or municipal hookups.
- **Pipe Materials:** Only approved materials (like copper, CPVC, PEX, etc.) can be used. Protect pipes from freezing, corrosion, and damage.
- **Sizing:** Pipes must be correctly sized to deliver enough pressure and flow.
- **Contamination Prevention:** Prevent cross-connections with non-potable water using backflow devices.
- **Valves & Shutoffs:** Every building needs a main shutoff and individual fixture shutoffs.
- **Insulation & Support:** Insulate hot water lines and support all pipes correctly.
- **Thermal Expansion:** Systems with check valves need expansion control like expansion tanks.

Drippy Pro Tips:

- Label lines clearly.
-

Use dielectric unions when mixing copper and steel.

Sanitary Drainage

This chapter explains how waste water (from toilets, sinks, etc.) is carried safely out of a building.

Key Points:

- **Connections:** Buildings must connect to sewer or approved septic system.
- **Materials:** Use approved materials (PVC, ABS, cast iron). Use proper adapters when switching types.
- **Sizing:** Use Drainage Fixture Units (DFUs) to size pipes properly.
- **Slope & Flow:** Minimum 1/4" per foot slope on small pipes. Oversizing can hurt performance.
- **Cleanouts:** Required at key points for maintenance. Must be accessible.
- **No Cross Connections:** Sanitary and storm systems must stay separate.
- **Special Fixtures:** Items like washers or grinders may need extra consideration.

Drippy Pro Tips:

- Use long sweeps, not sharp elbows.
- Always test drainage before covering or burying it.

Chapter 8: Indirect & Special Waste

This chapter covers special waste lines that can't be directly connected to the regular drain system — usually to prevent contamination or health hazards.

Key Points:

- **What's Covered:** Indirect waste (like from soda machines or ACs) and special waste (like acid or lab waste).
- **Indirect Waste Rules:** Must drain through an **air gap** into a waste receptor (e.g. mop sink, floor sink).
- **Food Equipment:** Any food-prep or cleaning equipment needs indirect waste lines.
- **Clear-Water Waste:** Appliances like water softeners must drain indirectly.
- **Special Hazards:** Chemical or acidic waste needs to be neutralized before draining.

Drippy Pro Tips:

- Always use air gaps.
 - Never hard-pipe appliances with food or chemical waste.
-

Chapter 9: Vents

This chapter explains venting — allowing air into the plumbing to prevent pressure issues and sewer smells.

Key Points:

- **Purpose:** Prevents traps from being siphoned or pressurized.
- **What Must Be Vented:** Every trap and fixture.
- **Vent Types:** Individual, common, wet vent, loop vent, and AAVs (check code).
- **Sizing:** Must match fixture demand.
- **Location:** Vents must rise above the trap, slope to drain, and avoid flat sections.
- **Termination:** Must end outside, usually above the roof.

Drippy Pro Tips:

- Use AAVs where allowed for remodels.
- Never block a vent.

- Keep vent lines short and direct if possible.

Traps, Interceptors & Separators

This chapter covers the devices that catch debris, prevent sewer gases, and separate out harmful or messy materials before they enter the plumbing system.

Key Points:

- **Fixture Traps:** Every fixture needs a trap. No double traps. Limit trap-to-fixture distance.
- **Trap Materials:** Must be durable and corrosion-resistant.
- **Interceptors:** Required for grease, oil, sand, etc. Must be cleaned regularly.
- **Separators:** Used for industrial fluids. May need pre-treatment tanks.

Drippy Pro Tips:

- Clean grease traps often.
 - Label interceptors for easy access.
-

Chapter 11: Storm Drainage

This chapter handles rainwater drainage — from roofs, patios, drive-ways, etc.

Key Points:

- **Drain Locations:** Must go to approved disposal spots.
- **Homes:** Can drain to lawn/street if away from building.
- **Gutters & Downspouts:** Must be sized and sloped right.
- **Flat Roofs:** Need overflow protection.
- **Materials:** Use approved outdoor piping.

Drippy Pro Tips:

- Always direct water away from foundations.
 - Clean roof drains to prevent clogs.
-

Chapter 12: Special Piping & Storage Systems

This chapter covers medical gases and other special non-plumbing systems.

Key Points:

- **Scope:** Applies to medical gas and vacuum piping in hospitals and labs.
- **Rules:** Must follow plumbing and fire codes.
- **Materials:** Use special piping — no standard water pipe.
- **Installers:** Must be qualified.
- **Labeling:** Pipes and valves must be clearly marked and accessible.

Drippy Pro Tips:

- Only trained professionals should install or repair these systems.

Chapter 13: Nonpotable Water Systems

This chapter covers systems that collect, treat, and use water that isn't safe to drink — like rainwater or reclaimed water.

Key Points:

- **What's Covered:** Collection, storage, treatment, and plumbing for reused water (rainwater, graywater, etc.).
- **Use Cases:** Can be used for flushing toilets, irrigation, cooling systems — not for drinking or food prep.
- **Design Standards:** Must meet code rules or use CSA B805/ICC 805 for rainwater systems.
- **System Requirements:** Must be clearly labeled, color-coded (often purple), and separated from potable lines.

- **Storage:** Tanks must be sealed, vented, and protected from contamination.
- **Backflow Protection:** Potable water backup lines must be protected with approved backflow preventers.
- **Maintenance:** Systems need regular inspection, testing, and flushing.

Drippy Pro Tips:

- Never mix drinking water lines with reused water.
- Label all pipes clearly and follow strict cross-connection rules.

Appendix C - Structural Safety

Note: These rules only apply if your local code has adopted them.

C101 - Cutting, Notching & Boring in Wood and Steel Members

C101.1 Joist Notching

- Ends of joists: Notches can't be deeper than 25% of joist depth.
- Top/bottom of joists: Max notch depth = 1/6 of joist depth.
- No notches allowed in the **middle third** of the joist span.
- Holes must be at least 2" from top/bottom edges and can't be larger than 1/3 of the joist depth. ##### C101.2 Stud Cutting and Notching
- In **load-bearing walls:** Notches can't be deeper than 25% of stud width.
- In **non-load-bearing walls:** Up to 40% notching allowed. ##### C101.3 Bored Holes in Studs
- Max hole size = 40% of stud depth (60% in non-load-bearing or doubled studs).
- Holes must be at least 5/8" from the edge.
-

No boring where there's also a notch in the same section.

C101.4 Structural Steel Framing

- Any holes/notches must be **approved by a licensed structural engineer**. ### C101.5 Cold-Formed Steel (Load-Bearing)
- **Do not notch flanges or lips.**
- Holes only allowed in webs, along the centerline, with exact spacing/distance/size per engineer's specs. ### C101.6 Cold-Formed Steel (Nonstructural)
- **No flange or lip notching** allowed.
- Holes in webs:
 - Max: 1.5" wide x 4" long
 - Must be 24" apart minimum (center-to-center)
 -

Stay at least 10" away from the support end

Pro Tips:

- If you're drilling wood: stay centered, space out your holes, and avoid doubling up with notches.
- If you're dealing with steel framing: don't cut anything unless you've got engineer approval.
- These rules are here to **prevent framing failure** due to over-cutting.

Florida Plumbing Code - Laymen's Guide (Appendix E)

Appendix E: Sizing of Water Piping System

Note: These rules only apply if adopted by your local ordinance. This appendix explains how to correctly size water piping systems to ensure proper pressure and flow at all fixtures.

□ Section E101: General Concepts

- Two approved sizing methods:
 1. **Segmented Loss Method** (detailed step-by-step)
 2. **Table-Based Sizing** (see Table E201.1 at the end)
 - You must account for:
 - Available static pressure at the supply
 - Elevation differences
 - Friction loss through meters, valves, fittings, filters, and backflow preventers
 - Fixture demand (in gallons per minute or water supply fixture units – wsfu)
-

□ Section E102: Information You'll Need

- Minimum available pressure (from water supplier)
 - Friction loss from meters (ask manufacturer)
 - Estimated total building demand:
 - Fixtures (use wsfu from Table E103.3(2))
 - Constant-use appliances (in GPM – e.g., sprinklers, AC, hose bibbs)
-

□ Section E103: Pipe Sizing via Segmented Loss Method

1. **Start with available pressure** from the main (Line A)
 2. **Subtract losses:**
 - Required pressure at most remote fixture (Line B)
 - Losses through meter, tap, elevation, devices (Lines C–H)
 3. Remaining pressure (Line J) is what's available for pipe friction
 4. Determine **pipe lengths** and trial pipe size
 5. Add equivalent pipe length for fittings/valves (see Tables E.1, E103.3(6))
 6. Use charts (like Figure E103.3(3)) to find expected friction loss per 100 feet
 7. Multiply friction rate × pipe length to get total loss (Line K)
 8. Confirm: Line J > Line K → □ Good. If not, resize pipes
-

□ **Table E103.3(2): Fixture Unit Load Values**

These values help you estimate the demand each fixture places on the system. Use them when summing up cold, hot, or total load in Water Supply Fixture Units (wsfu).

Fixture	Cold	Hot	Total
Bathroom group (flush tank)	2.7	1.5	3.6
Bathroom group (flushometer)	6.0	3.0	8.0
Bathtub (private)	1.0	1.0	1.4
Kitchen sink (residential)	1.0	1.0	1.4
Lavatory (private)	0.5	0.5	0.7
Lavatory (public)	1.5	1.5	2.0
Laundry trays (1-3)	1.0	1.0	1.4
Shower (private)	1.0	1.0	1.4
Shower (public)	3.0	3.0	4.0
Urinal (flush tank)	3.0	—	3.0
Urinal (flushometer)	5-10	—	5-10
Water closet (flush tank, private)	2.2	—	2.2
Water closet (flushometer, public)	10.0	—	10.0

→ For other fixtures, compare them to similar types listed.

□ **Table E103.3(3): Estimating Total System Demand**

Convert total wsfu (fixture unit total) into gallons per minute (gpm):

Total wsfu	Demand (gpm)
10	14.6
20	19.6
30	23.3
50	29.1
100	43.5
200	65.0
300	85.0
500	124.0
1,000	208.0
2,000	325.0
3,000	433.0
5,000	593.0

→ Use this to calculate required flow for pipe sizing.

□ **Table E201.1: Minimum Pipe Sizes (Based on Fixture Units & Pressure)**

This table shows the minimum size for water meters, service lines, and distribution pipes depending on:

- Total water supply fixture units (wsfu)
- Available pressure
- Maximum pipe run length (developed length)

Example:

- 3/4" meter, 3/4" distribution pipe
At 50-60 psi, 200-foot run → Handles up to **5** wsfu.
- 1" meter, 1" pipe
At 40-49 psi, 150-foot run → Handles up to **21** wsfu.

□ Minimum water service pipe: **3/4"** (per E201.1).

□ **Table E202.1: Pipe Volume (Ounces per Foot)**

Used when calculating water demand, heater sizing, or flushing needs:

Pipe Type & Size	Volume (oz/ft)
1/2" Type L Copper	1.55
3/4" Type L Copper	3.22
1" CPVC SCH 40	5.53
1-1/2" PEX	8.09
2" Copper Type K	20.04

→ Multiply by pipe length to find total water held in the pipe.

□ **Friction Loss Reference (Valves & Fittings)**

Some fittings can add major pressure loss (expressed in feet of equivalent pipe):

Fitting	1" Pipe	Equivalent Feet
90° Elbow	3.0 ft	
Tee (branch)	5.0 ft	
Swing Check Valve	11.2 ft	
Globe Valve	25.0 ft	

□ Use these to add to pipe length during friction calculations (Line K).