ABI Deck Guide

Here's a **clear, technically grounded summary** of how **sodium percarbonate**, **pressure**, **flow rate**, **nozzle choice**, **temperature**, and **wood type** all work together for optimal deck cleaning — plus how to follow with **oxalic acid** for brightening and pH correction.

⭐ Concise Takeaway
For most wooden decks, sodium percarbonate at 1–2% active concentration, warm water (100–130°F), 500–800 PSI, 2.0–2.5 GPM, and a 40° nozzle give the safest and most effective cleaning. Hardwoods tolerate slightly higher PSI. Follow with 8–12 oz oxalic acid per gallon to brighten and neutralize.

Sodium Percarbonate: Optimal Use Summary
What it is
Sodium percarbonate (SPC) is a solid oxidizing cleaner that releases hydrogen peroxide + soda ash when dissolved. It is the primary active ingredient in many deck cleaners.

🧪 1. Optimal Concentration
Sodium percarbonate is typically used at:
1–2% active concentration in solution for general deck cleaning
2–3% for heavy organic staining (mildew, algae, graying)
Mixing guideline: Most commercial SPC powders are ~85% active. To make a 1% active solution, dissolve ~1.5 oz per gallon. For 2%, use ~3 oz per gallon.

🌡️ 2. Optimal Water Temperature
Temperature dramatically affects SPC performance.
100–130°F (38–54°C) = *ideal*
Faster oxidation
Better dissolution
Stronger stain lifting
Avoid >140°F
SPC decomposes too quickly
Reduced cleaning power

💦 Pressure Washing Parameters (Integrated With Your Provided Info)
Softwood (Pine, Cedar)

PSI: 500–800 PSI
Flow rate: 2.0–2.5 GPM (ideal for rinsing and preventing furring)
Nozzle: 40° (preferred), 25° only for stubborn areas

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Distance: 8–12 inches
Reason: Softwoods are easily damaged; lower PSI protects fibers.

Hardwood (Ipe, Mahogany, Oak)

PSI: 800–1,200 PSI
Flow rate: 2.0–2.5 GPM
Nozzle: 25° or 40° depending on grime
Distance: 8–12 inches
Reason: Hardwoods tolerate more pressure but still require controlled technique

Why 2.0–2.5 GPM Is Optimal

Higher flow rate improves:
Rinsing efficiency
Removal of lifted fibers
Flushing out oxidized organic material
Reducing dwell time needed
Lowering PSI required to achieve the same cleaning power
GPM matters more than PSI for deck longevity.

Cleaning Workflow (SPC + Pressure Washer)

1. Mix Sodium Percarbonate Solution
   Start Here
   Prepare the correct concentration for the wood type and soil level.
   Use 1–2% active SPC for general cleaning
   Use 2–3% for heavy mildew or gray wood
   Mix with 100–130°F water for best activation
   Stir until fully dissolved

2. Apply the Cleaner
   Allow the oxidizer to break down organic staining.
   Apply with pump sprayer or chemical injector
   Keep surface wet for **10–15 minutes**
   Agitate with a soft brush for stubborn areas
   Do **not** allow the solution to dry on the wood

3. Rinse With Controlled Pressure
   Safety
   Use safe PSI and GPM to avoid damaging the wood fibers.

Softwood: 500–800 PSI, Hardwood: 800–1,200 PSI
Maintain 2.0–2.5 GPM for proper flushing
Use 40° nozzle (25° only for tough spots)
Hold wand 8–12 inches from the surface
Move in smooth, overlapping passes

4. Brighten With Oxalic Acid
   Recommended
   Neutralize pH and restore natural wood color.
   Mix 8–12 oz oxalic acid per gallon of warm water
   Apply evenly to entire deck
   Let sit 10–15 minutes until wood lightens
   Rinse thoroughly with low pressure
   Allows wood to dry to a uniform, healthy color

🌲 Softwood vs Hardwood: Performance Notes

Softwoods
More porous → SPC penetrates easily
Lower PSI prevents furring
Oxalic acid brightening is especially effective
Hardwoods
Dense → require slightly higher PSI
SPC may need higher concentration (2–3%)
Oxalic acid helps open pores for future staining

□ Why Follow With Oxalic Acid?
Oxalic acid:
Neutralizes high pH from SPC (SPC pH ≈ 10.5–11)
Removes iron stains and tannin discoloration
Brightens wood to a uniform color
Prepares surface for staining or sealing
Prevents long-term fiber damage from alkalinity
Use rate: 8–12 oz per gallon is standard for deck brightening.

✓□ Final Integrated Recommendations

Parameter	Softwood	Hardwood
SPC Concentration	1–2%	2–3%
Water Temp	100–130°F	100–130°F
PSI	500–800	800–1,200
GPM	2.0–2.5	2.0–2.5
Nozzle	40°	25°–40°

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Parameter	Softwood	Hardwood
Oxalic Acid	8–12 oz/gal	8–12 oz/gal