

WALKTHROUGH · VOLUME 01

Lab Cleaning Regimen & Furniture Spec

A Pre-Specification Walkthrough for Architects, Lab Planners, and Facility Managers

FOCUS

Cleaning regimen × material fit

AUDIENCE

Architects, lab planners, FMs

USE WHEN

Before locking casework spec

READ THIS WALK THROUGH BEFORE FINALIZING YOUR SPECIFICATIONS

On many labs, the biggest source of finish wear isn't the work on the bench. It's the disinfectant applied to every surface. Use this guide to describe your room's cleaning profile—chemistry, frequency, and exposure method—and to identify which casework materials fit before locking the specification.

Why cleaning regimen belongs in the specification

On many labs, the biggest source of finish wear isn't the work being performed on the bench — it's the disinfectant being applied to every surface in the room. A specification that only accounts for process chemistry, and not cleaning chemistry and frequency, tends to under-spec the cabinet body, hardware, and seams.

This walk through is a quick reference for the pre-specification conversation. Use it to describe the room's cleaning profile — chemistry, frequency, and exposure method — and to identify which casework materials are a fit, which are limited, and where a manufacturer's tested compatibility data needs to enter the conversation.

The three variables that shape wear

Chemistry	Bleach, quats, hydrogen peroxide, alcohols, acids, and specialty decon each attack materials differently. Chlorides pit stainless welds. Quats build residue. Peroxide can microcrack some polymers.
Frequency	A surface wiped once a shift lives a different life than one wiped every hour. Cumulative dwell time compounds fast.
Exposure method	Wiped chemistry contacts the surface briefly. Sprayed chemistry finds hardware, hinges, and cabinet fronts. Pooled chemistry — the puddle left at a seam — is where finishes tend to fail first.

Cleaning-frequency tiers

Tier 1 – Periodic	Weekly or as-needed. Research labs, dry benches, storage-heavy rooms.
Tier 2 – Daily	Clinical labs, teaching labs, most academic environments.
Tier 3 – Multiple times per day	Pathology, healthcare-adjacent labs, outpatient rooms, pharmacy compounding.
Tier 4 – Aggressive decon	BSL-3, USP 800 compounding, vaporized hydrogen peroxide cycles, sporicidal wipe-downs.

Chemistry × material ompatibility, at a glance

General chemical compatibility at typical use concentrations. Not a substitute for the manufacturer's tested resistance data for the specific product line and finish.

Cleaning chemistry	Plastic laminate	Powder-coated steel	Type 304 stainless	Type 316 stainless	Phenolic	Polypropylene
Quaternary ammonium	Generally compatible	Generally compatible	Strong	Strong	Strong	Strong
Alcohol (IPA / EtOH)	Generally compatible	Generally compatible	Strong	Strong	Strong	Strong
H ₂ O ₂ -based disinfectants ¹	Generally compatible	Generally compatible	Strong	Strong	Generally compatible	Generally compatible
Diluted bleach (labeled use conc.)	Limited	Generally compatible ²	Generally compatible	Strong	Generally compatible	Strong
Repeated / high-concentration bleach	Avoid	Limited	Limited	Generally compatible ³	Limited	Strong
Acids & specialty chemistry	Avoid	Limited	Chemistry dependent	Chemistry dependent	Chemistry dependent	Chemistry dependent ⁴



These ratings indicate general chemical compatibility only – not structural performance, load capacity, fire performance, clean-ability, cost, or suitability for every laboratory application.

¹ Typical liquid disinfectant use only. Does not represent vaporized hydrogen peroxide or terminal decontamination cycles.

² Depends on the specific coating chemistry and the manufacturer's tested compatibility.

³ 316 provides improved chloride resistance over 304 but is not immune to bleach-related corrosion. Concentration, dwell time, rinsing, pooling, weld condition, and cleaning frequency matter.

⁴ Specific acid or specialty-chemistry concentration, temperature, and exposure conditions must be reviewed with the manufacturer.

What to watch, by material

Plastic laminate. Fine for periodic and daily quats or alcohols. Edges, seams, and adhesive joints are the weak points. Prolonged bleach exposure will bleach out many decorative laminates.

Powder-coated steel. Strong general-purpose finish. If you're concerned about the type of cleaning agents you're using, ask the manufacturer which coating system is being used and whether it can handle or has been tested against the cleaning chemicals and exposure frequency in your facility.

Type 304 stainless. Handles quats, alcohols, and dilute bleach well. Weld seams and passivation imperfections are where corrosion starts. Chloride-heavy daily use may drive the spec to 316.

Type 316 stainless. Higher chromium and added molybdenum give it broader chloride tolerance than 304. Often specified for repeated bleach exposure, chloride-rich analytics, and demanding decontamination cycles — but still not immune to bleach-related corrosion; concentration, dwell, and rinsing matter.

Phenolic resin. Nonporous, dimensionally stable in humid rooms, generally compatible with hospital-grade disinfectants. Aggressive solvents and prolonged bleach can still affect surface finish over time.

Polypropylene. First choice for high-acid, high-moisture environments — trace-metal, acid-digestion, some pharmaceutical suites. Different impact and load profile from metal; not a like-for-like swap.

Pre-specification worksheet

Fill this out before finalizing the casework and countertop package. It captures the cleaning-regimen inputs that belong in the specification alongside the process chemistry.

Room name / number:	
Primary process chemistry (what the work handles):	
Cleaning chemistries in use (check all that apply):	
Cleaning frequency tier (1 – 4, see page 1):	
Exposure method (wipe / spray / fog / soak):	
Dwell time per cleaning cycle:	
Surfaces contacted by disinfectant (countertop / cabinet fronts / interiors / hardware):	
Countertop material under consideration:	
Cabinet body material under consideration:	
Hardware finish under consideration (concealed hinges + bar pulls preferred):	
Manufacturer's tested resistance data confirmed for these chemistries? (Y / N)	
Notes:	

Working on a lab with specialized chemistry or aggressive decontamination?

The compatibility grid above is a starting point, not a substitute for tested resistance data. If your cleaning regimen uses substances outside the common disinfectants covered here — or involves fogging, sporicidal cycles, or USP 800 hazardous-drug protocols — reach out and we'll work with you on appropriate furniture solutions.

www.onepointesolutions.com/contact | 866-612-7312

Sources

Confirm specific product-line compatibility against the manufacturer's tested chemical resistance data or recommendations.

1. CDC HICPAC — Guidelines for Environmental Infection Control in Health-Care Facilities.
<https://www.cdc.gov/infection-control/media/pdfs/guideline-environmental-h.pdf>
2. CDC — Guideline for Disinfection and Sterilization in Healthcare Facilities.
<https://www.cdc.gov/infection-control/hcp/disinfection-sterilization/index.html>
3. EPA — Selected EPA-Registered Disinfectants (Lists N, K, L, and others).
<https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>
4. USP — General Chapter <800> Hazardous Drugs — Handling in Healthcare Settings.
https://go.usp.org/general_chapter_800
5. SEFA — Recommended Practices & Standards (SEFA 8-M, 8-PL, 8-W, related casework standards).
<https://www.sefalabs.com/standards/>