

The Centers for Disease Control and Prevention's Vessel Sanitation Program is proud to bring to you the following session:

Equipment and Facilities: Construction and Maintenance

While this presentation is primarily intended for cruise vessels under the jurisdiction of the Vessel Sanitation Program it may also be used by anyone who is interested in this topic.

This session should not be used as a replacement for existing interactive training but should be used as an adjunct to a comprehensive training program.



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Equipment and Facilities

Construction and Maintenance

Vessel Sanitation Program

2007



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Learning Objectives

- List the materials that are acceptable in the construction of food contact surfaces.
- Explain the differences between the cleaning frequencies for food contact vs. non-food contact surfaces.
- List the time and temperature for hot sanitization using manual methods.
- List the solution strength in ppm and contact times for chemical sanitization.



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Learning Objectives

- List the proper location for placing thermometers in cold hold and hot hold units.
- List the items that must be available at each handwash station in the galley.



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Food Contact Surfaces



- Design and Construction
 - Durable
 - Smooth
 - Corrosion resistant
 - Seams and crevices
 - Angles and corners
 - Fasteners
 - Installation



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Food Contact Surfaces



- Maintenance and Cleaning
 - Working order
 - Accessible
 - Cleaned as necessary
 - Non-potentially hazardous foods
 - Potentially hazardous foods



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Acceptable Materials

- Stainless steel
- Hard plastic, rubber or rubber-like materials
- Cast iron-heated food contact surfaces: grills, griddle tops, and skillets.
- Hard maple or equivalent-limited use



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Hard Sealant vs. Soft Sealant

- Soft sealants
 - Non-food contact
 - Ice machines
- Hard Sealant
 - Anywhere
 - Food contact
 - non-toxic



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Cutting Boards

- Plastic or Hard Wood
- Smooth
- Refinished/replaced as needed
- Color coding
- Cleaning/sanitizing frequency
 - Potentially hazardous
 - Non-potentially hazardous



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Facilities to Maintain Temperatures



- Hot and Cold Holding Units
 - Capacity
 - Air circulation
 - Food temperatures
 - Thermometers



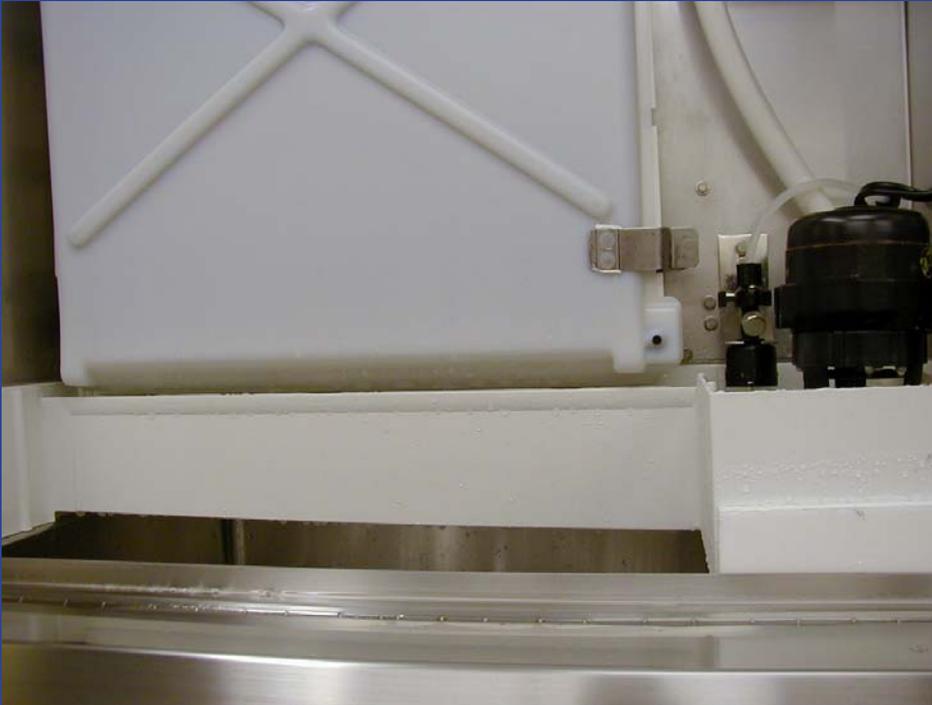
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Ice Machines

- Technical vs. Food Contact



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Filters



- Not in Manual
 - Change Regularly
 - Date filter

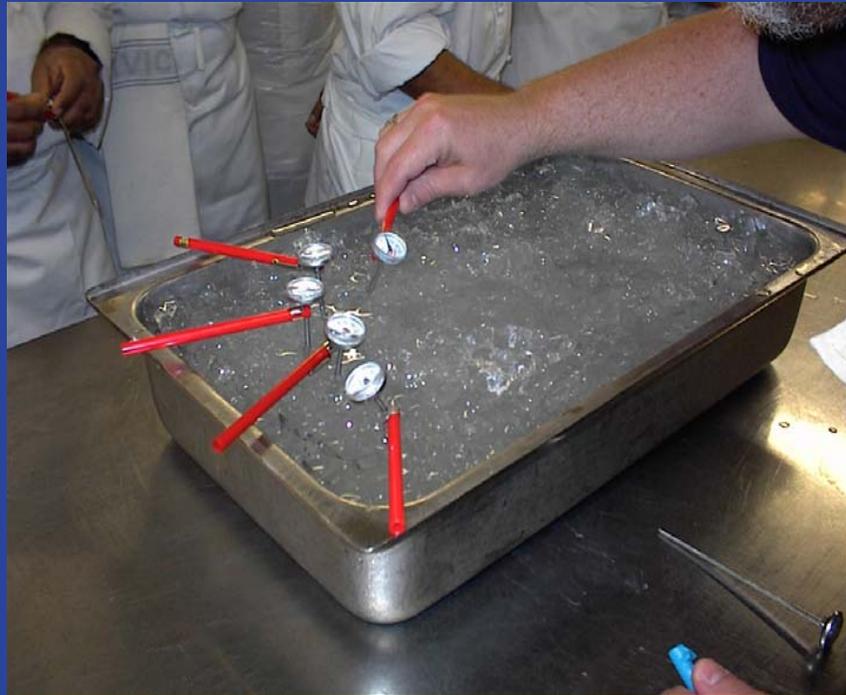


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Food Thermometers



- Calibrated Regularly
- Cleaned and Sanitized Regularly
- Accurate to:
 - +/- 1°C
 - +/- 2°F



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Non-food Contact Surfaces

- Constructed and Maintained
 - Durable
 - Retain characteristics with normal use
 - Installed for cleaning or easy to move



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Walk-in Units



- Shelving
- Air-circulation
- Thermometers
- Evaporators
 - Pans
 - Drain lines
 - Storage underneath



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Surfaces Exposed to Splash

- Non-food Contact
 - Designed for easy cleaning
 - Non-absorbent
 - Smooth
 - Corrosion resistant



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Exhaust hoods

- Sized properly
- Filters removable
- Clean



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Mechanical Warewashing Equipment



- Cleaned
- Data plate
- Gauges
- Curtains
- Spray Patterns

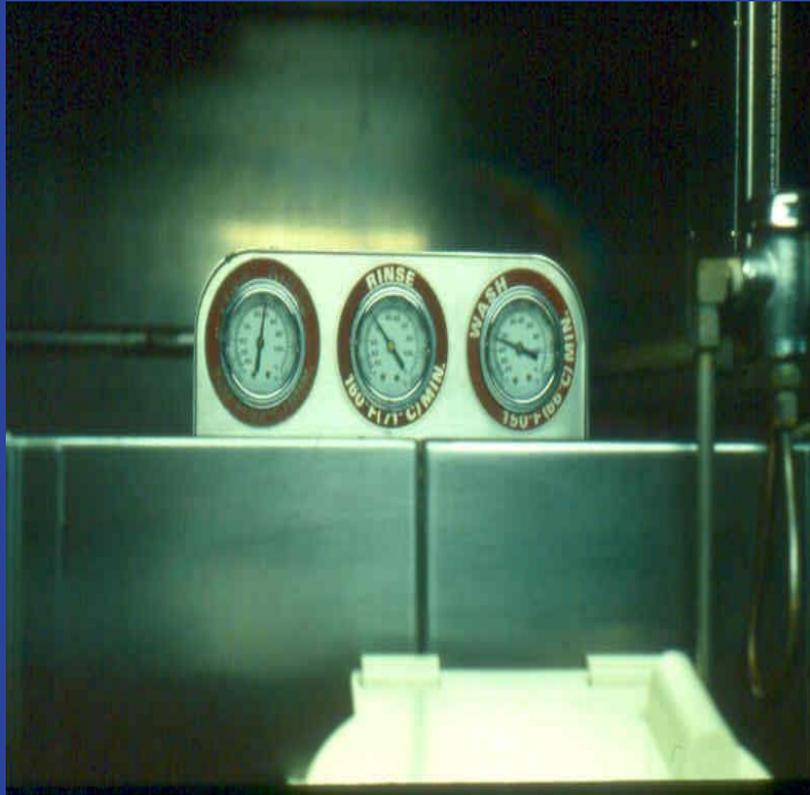


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Machine Gauges



- Numerical scale
- Increments 1°C (2° F)
- Accuracy +/- 1.5°C or +/- 3 °F
- Pressure Gauge-pumped rinse



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Warewashing Procedures

- Scrap
- Pre-flush
- Soak (as needed)
- Wash
- Rinse
- Sanitize
- Air dry



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Poor loading.



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Machine Maintenance

- Trained employees
- Routine inspection
- Routine cleaning
- Temperature checks



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Manual Warewashing

- 3-compartment sink
 - Compartments sized properly
- 3-bucket system



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Clean In Place (CIP) Equipment

- 3-Bucket System
 - Wash, rinse, sanitize and air dry



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Sanitizing Temperatures Plate Surface

- Automatic Warewashing units
71°C (160°F)
- Manifold temperatures vary



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Sanitizing Temperatures

Manual Operation- 77°C (171°F) for
30 seconds



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Chemical Sanitizers

- Tests kits/strips
- Quaternary Ammonium Compound
 - # ppm per manufacturer for 30 seconds
- Iodine
 - 12.5-25 ppm for 30 seconds
- Chlorine
 - 50-200 ppm for 7 seconds



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Wiping Cloths and Linen



- Linen use limitations
- Soiled/clean linen storage
- Dry cloths
- Wet cloths
 - Sanitizing solution
 - Test strips



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Clean Equipment Storage



- Self-draining position
- Protected
- Covered/inverted
- 15 cm above deck



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Pre-set Table



- Pre-set
 - less than 4 hours okay
- Pre-set
 - more than 4 hours = storage
 - Covered/protected



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Soiled Equipment Storage



- Sufficient Capacity
- Not on Deck



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Potwash Clean Storage



- Capacity
- Self-draining position
- Shelves drain
- Covered or protected
- 15 cm from deck



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Equipment Storage



- Knife Lockers
 - Secure
 - Accessible
 - Clean items only



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Handwash Station



- Within 8 meters (25 feet)
- Accessible
- Hot water minimum 43°C (110°F)
 - 52°C (125°F) maximum for electronic sensor units where user does not have control
- Used for nothing else
- Adequately stocked
- Signs (language)



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Solid Waste Storage



- Properly located
- Durable, easy to clean, leak proof
- Cleaned when emptied
- Facilities for cleaning receptacles

- Tight fitting lids
 - Open= in use
 - Closed= not in use



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Facilities

- Decks
- Deckheads and bulkheads
- Attached equipment
- Coved junctures
 - Deck/bulkhead
 - Deck/equipment
 - Deck/wait stations
 - Deck/buffet



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Liquid Waste and Equipment Drain Lines

- Indirect connections
 - Food equipment/sinks
 - Warewashing equipment/sinks
- Not overhead in food areas
 - unless sleeve welded
- Properly sized
- Good repair



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Lighting



- Shielded
- Shatter-resistant
- Adequate levels



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Proper storage of cleaning supplies

- Cleaning lockers and chemical lockers
 - Ventilation for mop lockers
- Pesticide lockers
 - Locked
 - Out of food service areas
- Cleansers and chemicals labeled



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Organizing a cleaning program

- Survey cleaning needs
- Compartmentalize areas to be cleaned
- Assign areas to staff
- Devise a cleaning schedule
- Supervise/demonstrate cleaning procedures
- Ensure that proper tools and cleansers are available for tasks



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Cleaning Program Maintenance

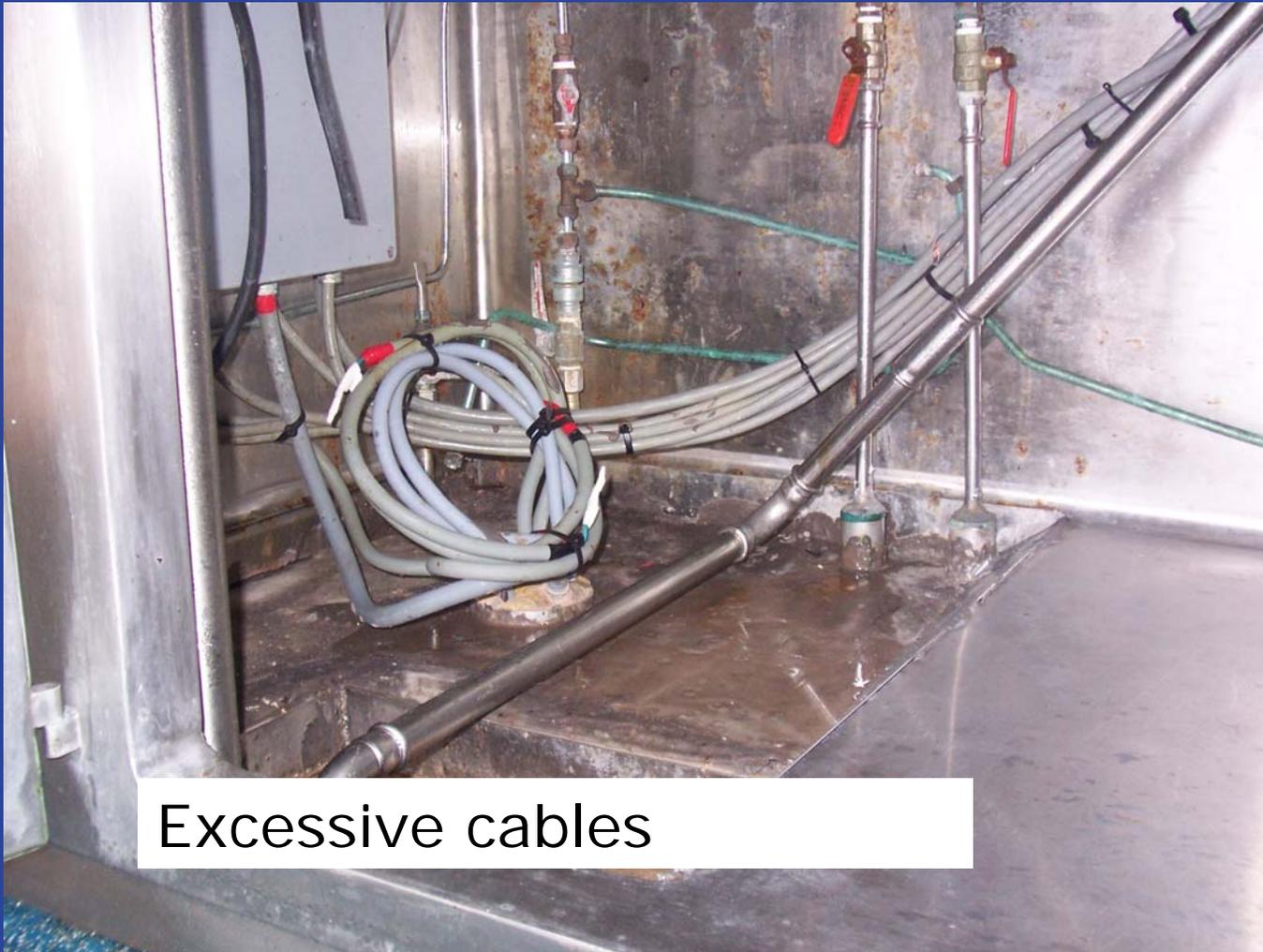
- Routine weekly inspections
- Use good areas as examples
- Tie into integrated pest management
- Replace difficult to clean equipment
- Monitor program for effectiveness



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Excessive cables



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Insufficient space for cleaning



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Inside of mixer lid with slotted fasteners



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Damaged area



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No coving-soft sealant used near deck



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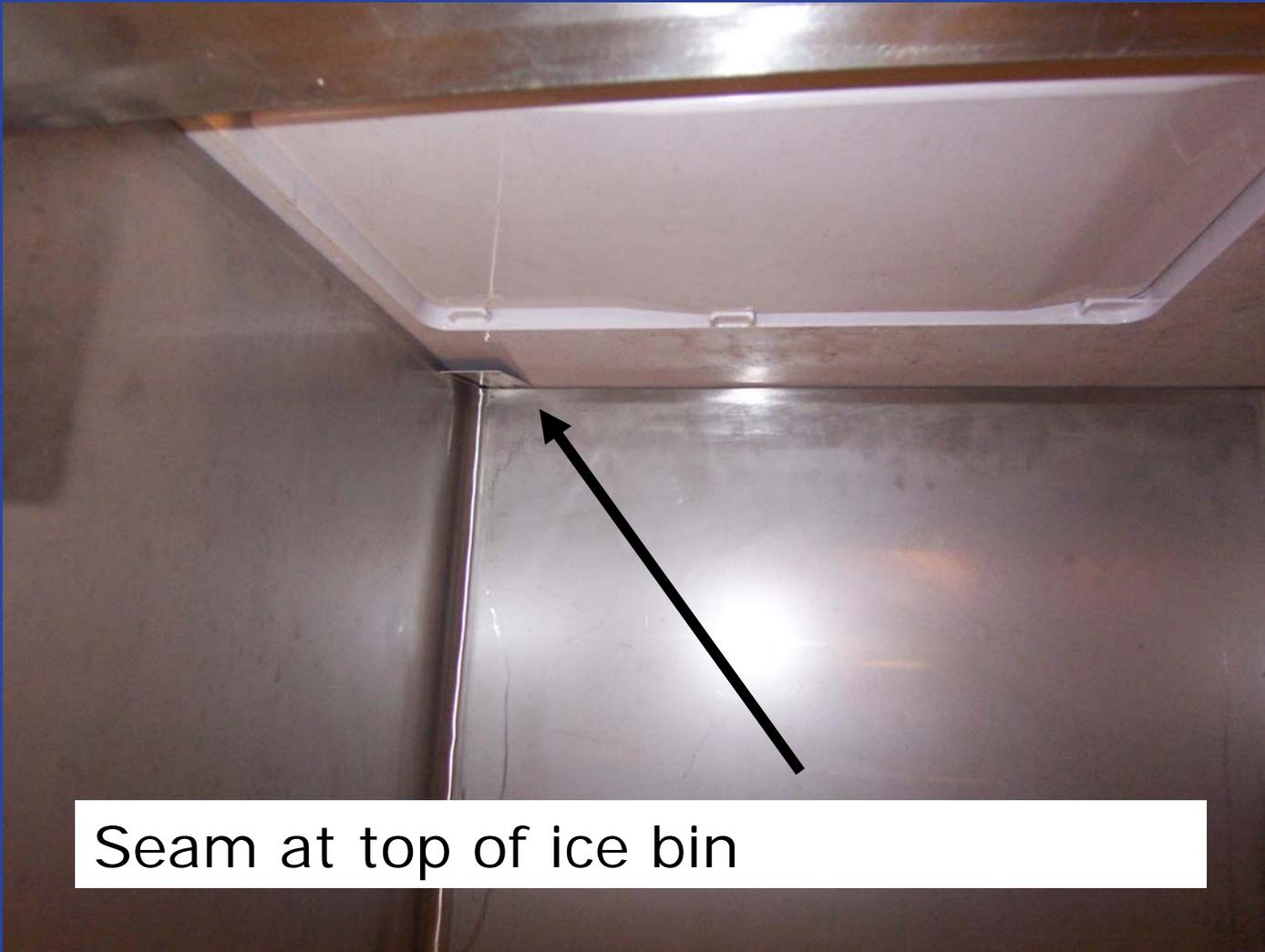
Insufficient space for cleaning



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Seam at top of ice bin



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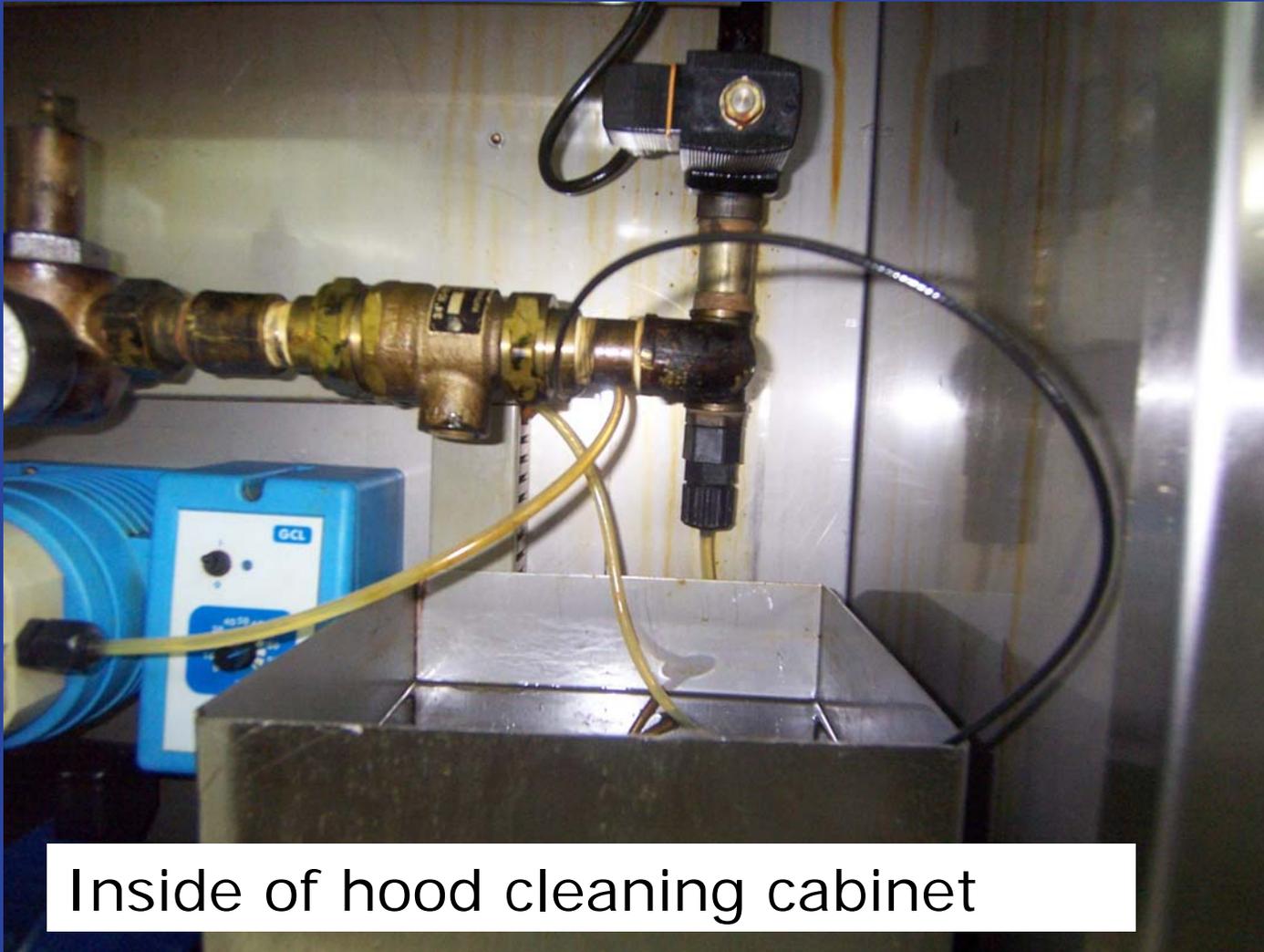
Leak from hood cleaning cabinet on to preparation counter



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Inside of hood cleaning cabinet



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Insufficient space at top of equipment for cleaning



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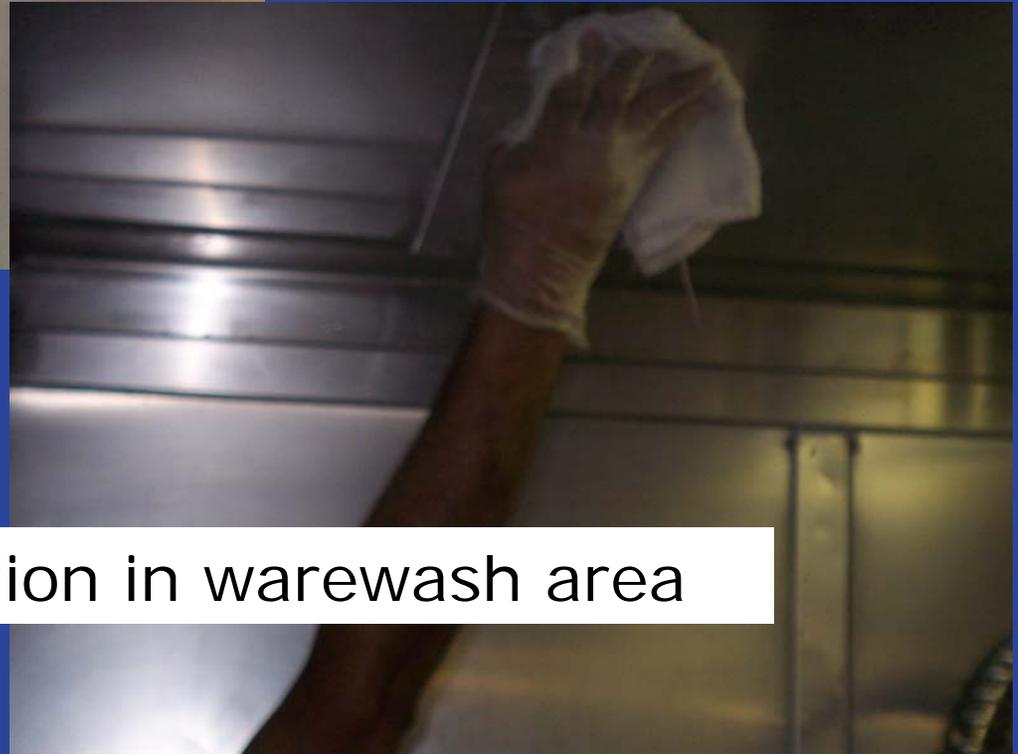
Fastener at top of grill-not smooth



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Inadequate ventilation in warewash area



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Condensate on sneeze guard over food in station



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Resources and References

- www.cdc.gov
 - www.cdc.gov/nceh/vsp
- www.fda.gov
 - www.cfsan.fda.gov



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