



# DEEP SINKS AND SHOULDER LENGTH GLOVES

Sanitizing water temperature is between 171-185° F in a deep sink. Protective gloves and an apron prevent second-degree burns. Eye protection and dip and drain baskets with handles that are not submerged under the scalding water also reduce the risk of hot-water burns.

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## MISUSE OF PERSONAL PROTECTIVE EQUIPMENT CREATES AN ELEVATED RISK TO FLEET

Naval Safety Command (NAVSAFECOM) found that ships frequently do not have the 31" neoprene deep sink gloves readily available for use. The Local Area Assessments also identified that training is not being conducted on proper deep sink procedures and safety requirements for food service attendants (FSA) prior to FSAs being assigned deep sink work.

Study of Thermal Injury V: The Predictability and the Significance of Thermally Induced Rate Processes Leading to Irreversible Epidermal Injury, 1946 Archives of Pathology 489.

Surface Temperature in the Causation of Cutaneous Burns		
Water Temp °F	Time for 1 <sup>st</sup> Degree Burn	Time to Permanent 2 <sup>nd</sup> /3 <sup>rd</sup> Degree Burns
110	Normal shower temperature	-
116	Pain threshold	-
116	35 minutes	45 minutes
122	1 minute	5 minutes
131	5 seconds	25 seconds
140	2 seconds	5 seconds
149	1 second	2 seconds
154	Instant	1 second



Figure 1

## A SCALDING EXAMPLE:

FSAs that wear elbow-length thermal gloves (Figure 2) are at an increased burn risk compared to wearing shoulder-length 31-inch deep sink neoprene gloves (Figure 1). In 47 analyzed reports, 45 FSAs immersed their elbow-length gloves deep into the sink, water then entered the cuff of the glove, and 171-185°F water filled the glove and caused near instant second-degree burns before removal of the water-filled gloves. The two additional reports showed material damage (holes/tears) to the proper 31-inch gloves allowed water to enter the gloves and created second-degree burns. Recovery of second-degree burns results in a loss of 223 days per Sailor (30 days sick in quarters and 193 days due to light-limited duty).

The OPNAVINST 5100.19E and NAVSUP P-486 instruct all deep sinks shall have a drain basket placed into the sanitation sink during operation of the deep sink for all dishes/utensils to be placed inside for a minimum of 30 seconds. If the 47 Sailors used the drain basket to lift the dishes/utensils out of the sink vice immersing their hands/forearms, then the chance of burn risk would have decreased.



Figure 2

## NAVSAFECOM RECOMMENDS THE FOLLOWING ACTIONS:

1. Leaders and supervisors train all procedure/safety precautions as outlined in OPNAVINST 5100.19E and NAVSUP P-486 Ch 2. Continuous operational and safety procedures training for all personnel assigned and document the training conducted.
2. Ensure that a local operating/safety procedure is posted at/or in the vicinity of the deep sink as a forceful backup to assist personnel in the proper and safe operation of the deep sink.
3. Require PPE and accessory equipment for the deep sink (e.g., drip and drain basket) are accessible and used at all times.

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