

IICL Technical Bulletin - RTB-009 – addendum II.

Background: Refrigerated containers are being disinfected in China and possibly other locations as a prevention for spreading COVID-19. The chemicals being used are damaging the stainless-steel interior panels, aluminum, and other components within the container.

Purpose: Provide inspectors with guidance on how to differentiate damage caused by contamination resulting from the spraying of chemicals in the interior of the container and recommend action to mitigate the damage being caused to internal components. **Recommended damage mitigation action and recommendation to establish operational protocols to conduct supplemental off-hire inspections as required are shown on page 8.**

Units presenting signs of contamination from chemical spraying should have the interior panels, scuff liners, floors examined, and the internal bulkhead panels removed for detailed inspection of the condition of machinery components.



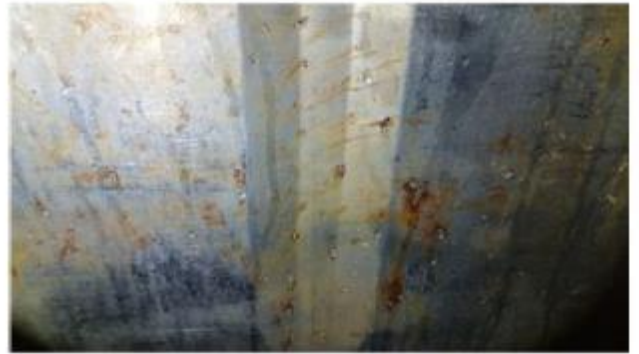
Minor rusty scratches on the HGSS panels due to loading/unloading operations, Refer to IICL General Guide for Container Cleaning, 3rd Ed.



Superficial rust near the welding seam area, Refer to IICL General Guide for Container Cleaning, 3rd Ed.



Contaminated panels showing rust/corrosion marks spread over large areas including weld seams, corrugated and flat surfaces. Above photos depict typical damage caused by contamination as result of chemical spraying. Repair required.



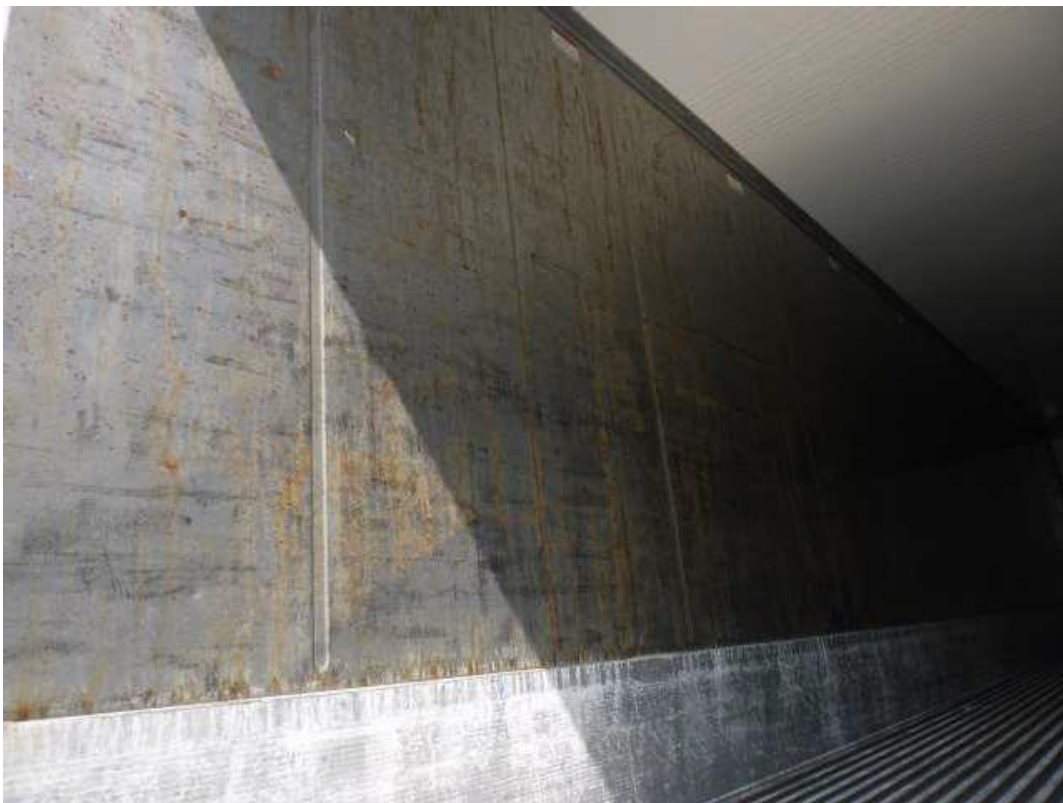
Contaminated panels showing rust/corrosion marks spread over large areas including weld seams, corrugated and flat surfaces. Above photos depict typical damage caused by contamination as result of chemical spraying. Repair required.



Rust/corrosion stains. Above photos depict typical damage resulting from contaminated panels after spraying with harmful chemicals. Repair required.



Rust/corrosion stains and pitting. Above photos depict typical damage resulting from contaminated panels after spraying with harmful chemicals. Repair required.



Contaminated HGSS panels showing corrosion as result of chemical spraying and scuff liner showing severe oxidation and corrosion process due to exposure to chemicals being sprayed. Repair required.



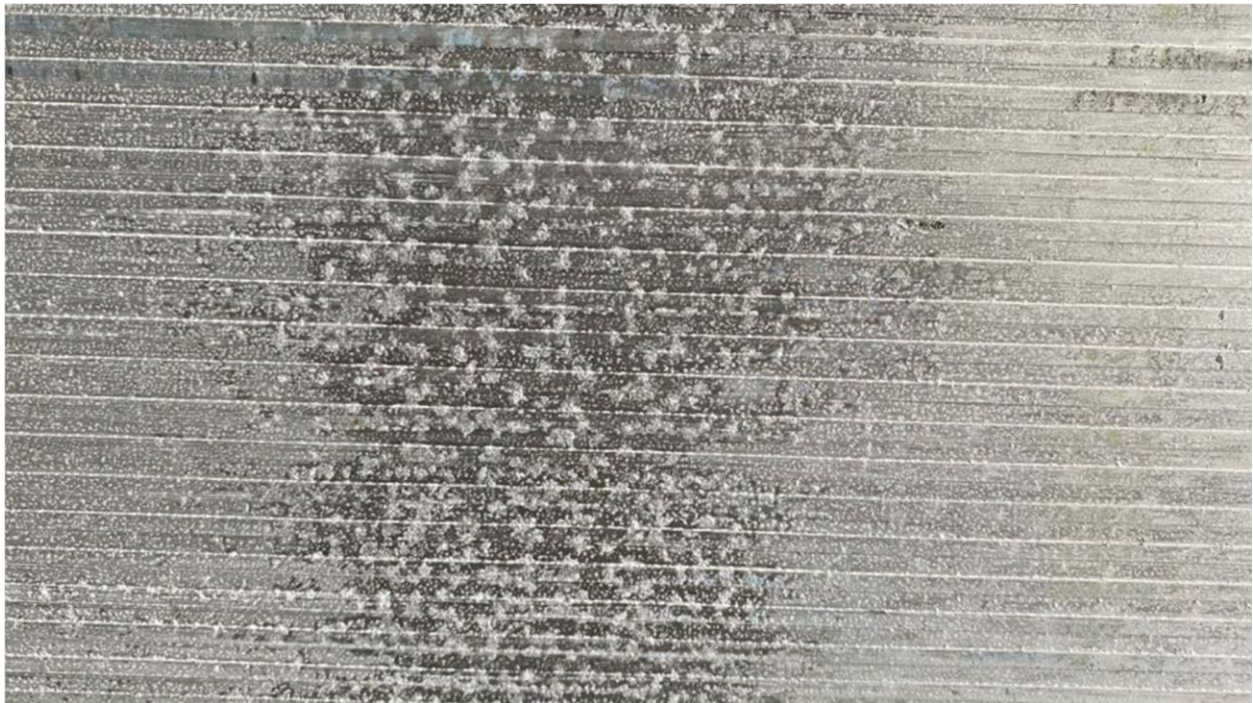
Contaminated HGSS panels showing corrosion as result of chemical spraying and scuff liner showing severe oxidation and corrosion process due to exposure to chemicals being sprayed. Repair required.



HGSS panels recently polished. Carefully look for existence of pitting, inspect machinery internal components. In the event pitting is detected, repair is required.



Contaminated scuff liner showing heavy oxidation and corrosion. Repair required.



Contaminated pitting on scuff liner. Repair required.



Scuff liner and aluminum T-floor showing oxidation and corrosion as result of chemicals spraying. Repair required.



Panels, scuff liner and aluminum T-floor showing oxidation and corrosion as result of chemicals spraying. Repair required.



Contaminated interior aluminum coving showing oxidation and corrosion due to chemical spraying. Repair required.

Damage mitigation.

The IICL strongly recommends that all refrigerated containers have the interior steam cleaned or, at least, high-pressure washed as soon as cargo is devanned. The IICL recommendation is valid for all locations. Water vapor and high-pressure washing can help to dilute the chemicals applied onto the interior of the containers and mitigate the damaging effects by penetrating in the small crevices to reduce the chemical concentration. This practice alone is not a final solution or remedy to the harmful effects of the chemicals being sprayed but a practical attempt to lessen the extent of damage to the equipment. The IICL continues to research this issue.

The IICL continues to investigate the refrigerated container damage caused by the application of disinfectants. While field and laboratory testing are ongoing, it has become clear that the aggressive nature of the disinfecting agents can continue to cause damage for a substantial period after the off-hire inspection performed at the time gate-in occurs. The IICL recommends that members establish or update their protocols to conduct supplemental inspections of off-hired units to identify latent damage caused by the disinfecting chemicals and issue supplemental repair estimates, as required.

As more information becomes available on this subject, the IICL will update these guidelines accordingly.

This Technical Bulletin was prepared under the supervision of the IICL Technical Committee.

End.