

PRECISION MAINTENANCE: GUIDELINES AND PROCEDURES

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MADE IN ITALY

A small horizontal bar representing the Italian flag, with green, white, and red sections.

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GENERAL CONDITIONS

During both the installation and subsequent maintenance phases, it is permissible to walk on the SkyProof sheets, adhering to the parameters outlined in the Walkability Tables as specified in the General Certificates.

For the safety of maintenance and cleaning personnel, it is imperative to utilize designated walkways, scaffold boards, and, in all cases, fall arrest systems when working on roofs fitted with SkyProof sheets. This is not only to ensure the safety of personnel but also to prevent any potential damage to the SkyProof sheets.

The inherent design of the sheets renders them resilient to impacts incurred during handling, installation, and regular service operations. Recognizing the importance of safety, workmen should be duly informed of the potential hazards, especially when traversing along the common "walkways" represented by the ridge and eaves on roofs.

It is crucial to emphasize that the last sheet at the roof edge, such as the gable/verge end, and plastic translucent sheets, are not suitable for walking on. Exercise caution and strictly adhere to safety protocols to mitigate any associated risks.

RECOMMENDATIONS

In order to preserve the structural integrity of SkyProof sheets, it is imperative to consistently implement load-spreading measures, such as catwalks, rigid support, or avoiding unnecessary walking, particularly at the ridge and eaves. This precautionary approach is essential to prevent local deformations arising from excessive foot traffic, especially at points of entry or access to the roof.

While the SkyProof sheets are resilient, occasional damage may occur due to foot traffic, falling objects, severe weather, etc. In instances of such damage, a prompt and meticulous repair process is recommended.

Defective or missing clips should be promptly replaced. It is crucial to note that if sheets incur damage before erection, they must not be utilized.

For the removal of SkyProof sheets, a task reserved for experienced and trained personnel, adherence to established safety protocols is paramount. This ensures the proper execution of the removal process while mitigating potential risks and hazards.

These recommendations are designed to uphold the longevity and performance of SkyProof sheets, emphasizing the importance of preventative measures and skilled personnel for both maintenance and removal procedures.

CLEANING & MAINTENANCE GUIDE

Cleaning

Effective cleaning is crucial in areas where industrial deposits have diminished the surface luster, construction process residues have soiled the surface, or cleaner run-off from adjacent surfaces needs removal.

Cleaning is specifically mandated in the following scenarios:

- **Areas of Low Rainfall or Industrial Activity:** In regions experiencing minimal rainfall or characterized by industrial activities, regular cleaning is essential to counteract the effects of environmental pollutants.
- **Foggy Coastal Regions:** Coastal areas prone to fog and subjected to cycles of condensation and drying may accumulate atmospheric salts and dirt, necessitating dedicated cleaning efforts.
- **Sheltered Areas in Any Climate:** In any climate, sheltered zones such as overhangs may accumulate dirt due to insufficient rainwater rinsing. Regular cleaning is required to maintain optimal surface conditions.
- **Thorough Rinsing After Cleaning Sheltered Areas:** After cleaning sheltered areas, thorough rinsing is particularly critical to ensure the complete removal of cleaning agents and prevent any residual buildup.

Adhering to these cleaning guidelines is imperative to preserve the aesthetic and functional integrity of the surfaces, especially in diverse environmental conditions and industrial settings.

Local conditions and the geographical positioning of a building inherently influence its cleanliness. It is imperative to promptly remove construction soils, such as concrete or mortar, to maintain the integrity of surfaces. The specific cleaning procedure adopted should be tailored to the nature and extent of the soil present.

It is advisable to conduct cleaning activities during mild weather conditions. Optimal times for cleaning are on the shaded side of the building or, preferably, on a mild and cloudy day. This helps prevent premature drying of cleaning agents and ensures effective soil removal.

In the cleaning process, careful consideration must be given to the method employed and the type of cleaner used. Compatibility with other building components, including glass, sealant, painted surfaces, etc., is essential. The chosen cleaning approach should not adversely affect the integrity or appearance of these components, emphasizing the importance of a holistic and thoughtful cleaning strategy.

Removal of light surface soil

The removal of light surface soil can be achieved through various methods, and it is recommended to conduct testing to determine the required cleaning intensity. The ideal starting point involves a forceful water rinse from top to bottom before applying any cleaning agents. Adding some form of surface agitation significantly enhances the effectiveness of the cleaning process. It is preferable to use low water volume with moderate pressure over substantial volume with minimal pressure. Physical rubbing of the surface using soft, wet brushes, sponges, or cloth can also prove beneficial.

The following step-by-step procedure is suggested:

- **Forceful Water Rinse:** Initiate the process with a forceful water rinse, preferably from top to bottom, to dislodge light surface soil. This initial step often provides satisfactory results.
- **Water Spray with Agitation:** If the soil persists, consider a concurrent water spray with brushing or sponging for effective removal.
- **Use of Mild Detergent (pH7) or Mild Soap:** If necessary, introduce a mild detergent or mild soap for the removal of stubborn soil. Apply with brushing or sponging, maintaining uniform pressure.
- **Cleaning Motion:** Clean in a systematic manner, starting with a horizontal motion and then transitioning to a vertical motion.
- **Thorough Rinsing:** After applying cleaners, thoroughly rinse the surface with clean water. Sponge the surface during rinsing, especially if cleaner has dried, and air dry or wipe dry with a chamois, squeegee, or lint-free cloth.
- **Minimize Run-Down:** Minimize cleaner run-down to lower building portions, and promptly rinse these areas to reduce streaking. Prevent the accumulation of cleaning chemicals, particularly on horizontal surfaces and crevices, by flushing with water and drying with air or a chamois, squeegee, or lint-free cloth.
- **Cleaning Direction:** Clean coated surfaces from top to bottom, followed by a thorough rinsing with clean water. For single-story or low-elevation buildings, consider cleaning from bottom up and rinsing from top down.
- **Prevent Water Stains:** To avoid water stains, wipe the surface after cleaning.

These guidelines aim to ensure the effective removal of light surface soil while maintaining the integrity of the surfaces and minimizing the impact on the building structure.

Mild detergents

Mild soaps or detergents deemed safe for bare hands are generally considered safe for coated aluminum surfaces. However, when considering stronger detergents, particularly those used in dishwashers, a cautious approach is recommended. It is advisable to conduct spot tests before widespread application. In cases where stronger detergents are employed, the use of rubber gloves and long-handled brushes may be necessary to protect both the cleaner and the coated aluminum.

The cleaning process should include the following steps:

- **Thorough Rinsing:** After cleaning with any detergent, the coated aluminum finish should be thoroughly rinsed with clean water to remove residual cleaning agents.
- **Drying:** Post-rinsing, the surface can be air-dried or wiped dry with a chamois, squeegee, or lint-free cloth.
- **Specialized Cleaning Solutions:** Some mild cleaning solutions, comprising selected wetting agents in water solutions, are designed for automatic building washing machines. These machines typically come equipped with built-in brush agitation, squeegees, filtrations, and recirculation features. Some models may even offer a freshwater connection.

Ensuring compatibility with coated aluminum and conducting spot tests when using stronger detergents are key practices to maintain the integrity of the surfaces. The availability of specialized cleaning solutions for automatic machines underscores the importance of tailored approaches to meet specific cleaning needs.

Cleaning of medium to heavy soil

Mild solvents, such as mineral spirits, are recommended for removing grease, sealants, or caulking compounds from coated surfaces. Caution is advised with stronger solvents or cleaners containing them, as they may have a deleterious effect on coatings. Conduct soap testing and consult the coating manufacturer to prevent potential harm to the finish.

To avoid surface marring, apply solvent or emulsion cleaners with a clean cloth and remove with another. Any remaining residue should be washed with mild soap and rinsed with water. Use solvents sparingly.

Exercise care with solvents that may extract materials from sealants, potentially staining the painted surface or harming the sealants. Test-cleaning a small area is recommended to assess possible adverse effects.

For heavy soil or stubborn stains, a more aggressive cleaner and technique may be required, matching the soil and painted finish. Local manual cleaning may be necessary, following the cleaner manufacturer's recommendations for proper cleaner and concentration.

Cleansers should not be used indiscriminately, and excessive abrasive rubbing should be avoided to prevent alterations to the surface texture or undesired shine.

Concrete spillage that has dried on the coated surface may require special cleaners, vigorous rubbing with non-abrasive brushes, or plastic scrapers. Diluted solutions of Muriatic Acid (under 10%) can be effective, but safety precautions must be observed, and a small test area should be cleaned first.

These guidelines prioritize effective contaminant removal while minimizing the risk of damage, ensuring the longevity and appearance of coated surfaces. Always prioritize safety and conduct small-scale tests before employing more aggressive cleaning techniques.

Never mix cleaners

Exercise extreme caution when it comes to mixing cleaners, as this practice can be not only ineffective but also extremely dangerous. For instance, combining chlorine-containing materials, like bleaches, with other cleaning compounds containing ammonia may lead to the release of poisonous gases.

To ensure safety and effectiveness:

Avoid Cleaner Mixing: Never mix different cleaning compounds to prevent potential chemical reactions and the associated risks of hazardous gas emissions.

Chemical Compatibility Awareness: Be cognizant of the chemical composition of cleaning agents and refrain from combining substances that may react negatively.

In addition:

Post-Cleaning Rinse: After removing heavy soil, it is crucial always to rinse the coated material thoroughly. This step helps eliminate any residual cleaning agents, preventing potential damage and ensuring a clean and safe surface. By following these guidelines, a safe and effective cleaning process can be maintained, prioritizing the well-being of individuals and the integrity of the coated material.

Summary of general cleaning tips

- **Avoid Overcleaning:** Overcleaning or excessive rubbing can be more detrimental than beneficial, potentially causing harm to painted surfaces.
- **Mind Solvent Strength:** Strong solvents or concentrated cleaners have the potential to damage painted surfaces, so exercise caution and avoid excessive concentrations.
- **Avoid Abrasive Cleaners:** Steer clear of abrasive cleaners, especially those containing abrasives, as they can compromise the integrity of painted surfaces.
- **Caution with Abrasive Materials:** Materials like steel wool, abrasive brushes, etc., can wear and harm finishes; hence, their use should be avoided.
- **Prevent Drips and Splashes:** Act promptly to remove drips and splashes to prevent potential damage.
- **Clean in Moderate Conditions:** Cleaning should be performed in shaded areas and at moderate temperatures. Extreme temperatures can affect cleaning effectiveness and may lead to streaking or staining.
- **Use Appropriate Cleaners:** Do not substitute heavy-duty cleaners for frequently used mild cleaners, and never scour coated surfaces.
- **Avoid Harsh Cleaners:** Refrain from using paint removers, aggressive alkaline or acid cleaners, phosphate, or highly alkaline or highly acid cleaners.
- **Follow SkyProof Recommendations:** Adhere to our web site www.skyproofco.com for mixing and diluting cleaners.
- **Never Mix Cleaners:** Never mix different cleaners to prevent potential chemical reactions.
- **Prevent Marring:** Ensure that cleaning sponges, cloths, etc., are grit-free to prevent marring of surfaces during cleaning.
- **Test Clean Small Surfaces:** Always test-clean a small surface to assess the compatibility of the cleaner and prevent unintended damage.
- **Prioritize Prevention:** "An ounce of prevention is worth a pound of cure" — prioritize preventive measures to maintain the longevity and appearance of coated surfaces.

These guidelines emphasize the importance of careful and considerate cleaning practices to preserve the integrity of painted surfaces.

Cleaning Guidelines for Natural Finish Surfaces (Stucco Embossed & Mill Finish):

Abrasive Agent Selection: Use an abrasive agent with a pH value between 5-8 for cleaning natural finish surfaces like stucco embossed and mill finish. This ensures effective cleaning without compromising the surface.

Soft Non-Woven Fabric Cleaning Cloth: Employ a soft non-woven fabric cleaning cloth when using abrasive agents. This helps prevent scratches or damage to the surface while facilitating effective cleaning.

Ecologically Compatible Cleaning Agents: When opting for special cleaning agents, ensure they are ecologically compatible. Choosing environmentally friendly products aligns with sustainability goals.

Rinse Off with Water: Always rinse off the cleaned surface with water. Thorough rinsing helps remove residual cleaning agents and ensures a clean and residue-free finish.

Steam-Jet Cleaning by Specialized Company: Steam-jet cleaning should be performed by a specialized company. This ensures the use of appropriate equipment and techniques, maintaining the integrity of natural finish surfaces.

These guidelines aim to promote effective and environmentally conscious cleaning practices for natural finish surfaces, preserving their appearance and longevity.

Cleaning of coil coated finishes

Selection of Cleaning Agents: When dealing with mild soil, a mild detergent with a pH value of 7 or mild soap is recommended for effective cleaning.

Application with Brushing or Sponging: Apply the chosen cleaning agent using brushing or sponging methods to ensure thorough coverage and effective removal of soil.

Cleaning Technique: Clean the surface with uniform pressure, starting with a horizontal motion and then transitioning to a vertical motion. This method helps achieve comprehensive cleaning coverage.

Application Area Consideration: Apply cleaners only to areas that can be conveniently cleaned without changing position. This ensures efficiency and thorough cleaning of the designated area.

Thorough Rinsing: After cleaning, the surface must be thoroughly rinsed with clean water. This step is crucial to remove any residual cleaning agents and prevent potential damage.

Sponging During Rinsing: During the rinsing process, especially if the cleaner is allowed to dry on the surface, it may be necessary to sponge the surface. This prevents the cleaner from drying and ensures effective rinsing.

Drying Methods: Once rinsed, the surface can be air-dried or wiped dry with a chamois, squeegee, or lint-free cloth. This final step ensures a clean and dry finish.

Adhering to these guidelines promotes a systematic and effective cleaning process while minimizing the risk of residue and potential damage to the surface.

Guidelines for Coated Surfaces Repair and Sheet Damage:

Repair of Coated Surfaces:

1- Surface Inspection:

- Damage may be discovered during cleaning or maintenance.
- Paint repair should be limited to small areas (max. 5.0 m²).
- Significant repairs require consultation with the supplier to retain warranty benefits.

2-Execution when No Corrosion is Found:

- Wash and dry the damaged surface.
- Apply recommended touch-up paint for protective and aesthetic reasons.

3-Execution with Small Corrosion Defects:

- Remove dust by abrading, scraping, and sandblasting to the bare material.
- Degrease the entire surface.
- Clean and dry the surface before applying a repair paint system recommended by the material supplier.

4- Overpainting/Recladding:

- Contact the supplier before repainting or recladding large surfaces.
- Investigate economic feasibility for over-painting or replacing coated sheets.
- Using non-compatible systems of repair paints and original coated surfaces may cause undesired effects.

Panel Damage and Repair Procedures:

Case 1 - Impact Damage from Above:

- For holes smaller than 20mm, use welding to create a seamless bond.
- For larger holes, use an additional piece of panel material welded around the perimeter to cover the damaged area.

Case 2 - Minor Protrusions from Improper Screw Installation:

- For unpunctured sheets, attach an aluminum strip at a 45-degree angle to create a gap and weld it in place.
- Apply at least two additional welding layers for durability.

Case 3 - Visible Holes from Improper Screw Installation:

- Precisely cut damaged sheet around screws and ribs.
- Properly fix clips with correctly located screws.
- Weld an identical opening shape from spare sheets over the damaged area's perimeter.
- Apply additional welding in multiple layers for thickness and durability.

Finishing Touches

After welding, apply two coats of paint for appearance and environmental protection.

These detailed repair procedures ensure a technically sound approach to restore the integrity and functionality of coated surfaces and sheets, prolonging their service life.

Inspection Intervals

Two inspections per year are recommended, with at least one documented inspection required for Limited Warranty coverage.

Regular Inspection and Maintenance

1- Condition of Sealants, Fasteners, and Flashings:

Regularly check for water-tightness.

Examine sealants, fasteners, and flashings for any issues.

2- Surface Defects:

Identify and address defects like scratches, scuffs, chipping, flaking, or excessive chalking/fading promptly.

Minor surface scratches can be covered with a matching touch-up paint pen.

Contact professionals for excessive damage.

3- Gutter Maintenance:

Clear blockages to prevent overflow or buildup.

Remove leaves, grass, mold, and debris.

4- Branches and Debris:

Remove branches or sticks touching the roof.

Ensure no other metals or materials are in contact with the roof.

5- Avoiding Materials Interaction:

Be cautious of materials that can adversely react with the metal roof.

Ensure compatibility with other roofing systems.

6- Cleaning Areas Not Rinsed Naturally:

Remove dirt in areas not rinsed by rainwater.

7- Graffiti or Marks Removal:

Remove graffiti or other marks promptly.

8- Fastener Inspection:

Check all fasteners for tightness and weather seal annually.

Replace loose or corroded fasteners.

9- Weld Inspection:

Inspect welds for cracks caused by thermal expansion, contraction, or foot traffic.

10- Roof Panel System Integrity:

Check and fix loose or separating roof sheet systems.

11- Flashing Maintenance:

Check and fix loose or damaged flashing materials.

12- Sealant Inspection:

Inspect exposed or concealed sealants for signs of degradation.

Replace damaged sealants.

13- Corrosion Check:

Address any areas exhibiting corrosion immediately.

14- Penetration Points:

Check areas around penetration points for proper flashing maintenance.

Ensure add-ons haven't exposed the roof to potentially degrading materials.

15- Punctures from Falling Debris:

Ensure no punctures in sheets from falling debris, especially in storm-prone areas.

ADDITIONAL RECOMMENDATIONS

Conduct individual inspections after heavy rain, storms, hail, thunderstorms (especially after an impact), and prolonged snow loads exceeding the calculated limit.

These guidelines aim to ensure the ongoing integrity and durability of the coated metal roof, minimizing potential issues through proactive inspection and maintenance.