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## **Maintenance and Care Information** **for Skyline Sky-Lites**

**Section 1: General Information**

**Section 2: Glazing**

**Section 3: Aluminum**



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## **Section 1: General Information**

### **1a. General:**

Your new Skyline skylight is engineered to be virtually trouble free. A good routine of maintenance will help maintain the aesthetic quality and functional integrity found in every Skyline unit. Along with occasional cleaning, it is a good idea to regularly check all sealant, gasketing, and flashing for possible failure, or erosion that may introduce water infiltration. When replacing sealant or gasketing, use only one of the commercially available silicone exterior sealants. Use only genuine Skyline gasketing available through your nearest representative. Maintenance checks should include inspecting and if necessary, clearing all weep holes. If your unit includes gutter systems, they should be kept free of all debris. It is a good idea to periodically check all glazing for scratches or abrasions. If at any time a fracture is discovered in a glazing lite, the lite should be replaced immediately.

### **1b. Cautions:**

These procedures are suggestions only, due to the fact that actual procedure and use is beyond our control. These suggestions should not be interpreted as having any guarantee of results. Skyline Sky-Lites reserves the right to alter any of this information without prior notice, and will take no responsibility for unsatisfactory results produced from improper use of applicable products.

### **1c. Storage:**

**1c.1: Glass:** Glass, like all glazing, should remain in its packing crate until ready to install. The crates should be covered with a good quality plastic or tarpaulin to protect them. The crates should be raised to allow free air movements. Store glass in a vertical position.

Avoid exposing glass to extreme temperatures and harsh industrial solvents.

#### **1c.2: Acrylic and Polycarbonate:**

Due to the nature of the materials to “expand” and “contract”, special care should be used to avoid extreme temperatures.

Avoid exposing acrylic and polycarbonate to extreme heat. Acrylic and polycarbonate will begin to soften at 260 degrees to 275 degrees. Avoid stacking domes in direct sunlight as this will produce a magnification effect where the top domes act as “focusing dishes” to concentrate heat to the lower domes resulting in deformations. Use material as soon as possible. Do not expose masked acrylic to high temperatures, or it will become very difficult to remove the masking.

#### **1c.3: Aluminum:**

All aluminum should be placed on edge and separated to allow free air movement. Ideally, all aluminum should be installed within a few days. If longer storage periods are foreseen, a protective plastic or tarpaulin should be used. The protective cover should not touch the aluminum, there must be a sufficient air space above the surface of the aluminum to encourage free air movement. If used, make certain the tarpaulin is free of fungicides containing heavy metals or chlorides. Finally, all aluminum that comes packaged in ordinary paper or cardboard should be stored in a stable temperature zone, or be removed from the packaging. Always remove all wet paper or cardboard and recover if aluminum is to be stored longer.

## Section 2: Glazing

### **2a: Cleaning:**

**2a.1: Glass:** Cleaning solution should be limited to soap or ammonia and warm water. Care should be used when washing with industrial solvents containing elements such as carbon tetrachloride since they would mar or dull the surface. Glass that has an applied solar control film may be washed with any common window washing solution 30 days after installation. Avoid abrasive agents and bristle brushes. Sponges, soft cloths, and chamois are recommended.

**2a.2: Acrylic:** Use a thoroughly diluted mild soap or detergent and water. Diluted household ammonia and water may be substituted. Apply to large areas with a bristle mop like that used in window washing applications. Apply to smaller areas with a soft cloth or chamois.

**Caution:** Abrasives will scratch the surface of acrylic! Never use instruments such as a putty knife or razor blade to remove spots from glazing. Never use solvents such as glass cleaning fluid, gasoline, acetone, carbon tetrachloride, or alcohol since they attack the acrylic surface. Do not clean acrylic or polycarbonate in direct sunlight. Aliphatic naphtha (no aromatic content) or kerosene may be used to remove grease and oil from acrylic products. Soil may be removed from glass by any conventional method. Paint can often be removed from acrylic by applying a paste consisting of wallpaper paste and 10-20 % solution of caustic soda or trisodium phosphate and water, followed by a thorough rinsing with warm water.

**Caution:** Caustic soda and trisodium phosphate attack the skin very quickly. Extreme care should be exercised when working with these materials.

### **2b: Minor Repairs:**

**2b.1: Waxing:** If, after removing dirt and grease, a small amount of scratching is visible, the acrylic or polycarbonate can be waxed with a good grade of automobile paste wax. The wax should be applied in a thin even coat, just enough to fill the scratches, and brought to a high polish by rubbing gently with a dry, clear cloth such as cotton flannel or cheese cloth.

**Note:** Avoid excessive rubbing, this action could produce scratches and will also build up an electrostatic charge that will attract dust particles. Blotting with a clear damp chamois or cloth will remove this charge along with the dust.

**2b.2: Scratch Removal:** Deeper scratches on acrylic or polycarbonate may be removed by sanding. Sand lightly with a 400 grit wet dry sandpaper using a straight to and fro motion parallel with the scratch or with a circular motion. Continue until the material around the scratch is essentially removed. After the scratch has been removed the sanded area should be buffed with a clear muslin wheel dressed with a good grade of fine grit buffing compound. A 1/4" electric drill fitted with a 4" buffing wheel has sufficient R.P.M.'s to achieve the desired buffing results.



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**Section 3: Glazing**

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**2b.3: Sanitizing:** Acrylic and polycarbonate material may be safely and thoroughly sanitized by means of any one of a number of commercially available compounds.

**Note:** The usual steam sanitizing at 15 p.s.i. can result in deformation of the glazing. Alcohol solutions containing more than 10% alcohol or cresylic acid germicides may attack and harm the glazing. Strong alkali solutions; e. g.: lye, sodium, and ammonia hydroxide, etc., are extremely effective germicides and are safe when used with recommended precautions against bodily injury.

## **Section 3: Aluminum**

### **3a: Cleaning:**

Mild hand soap and warm water may be safely applied to any of the aluminum finishes. Avoid indiscriminate use of steel wool, strong acids, and abrasive cleaners. When used properly, industrial cleaner may be used safely and are highly effective. Test the cleaning solution to be used on an unobtrusive section of the finish. Use the same concentration and technique that will be used for the entire job. Let the cleaner remain in place for the same time. Allow it to dry and inspect for stains. Test lacquered and painted finishes for softening and possible dissolution. Avoid exposing glazing materials to solvents, brushes, steam, and abrasives when using any aluminum cleaning procedures. Avoid using cleaners in extreme heat or cold. For best results, outdoor cleaning should be done on mild cloudy days or in the shade. Water-based cleaner should be thoroughly rinsed with water, after which the part or area is permitted to dry or is wiped dry. Cleaners containing wax, oil or silicones are removed with a dry cloth. Be sure to remove all traces of cleaner from cracks and corners.

#### **3a.1: Mild Soaps, Detergents and Non-Etching Cleaners:**

Mild soaps, detergents and non-etching cleaners that can be applied with bare hands may be used for cleaning aluminum finishes. Detergents too strong for the hands, such as some automatic dishwasher detergents, should be spot tested first. Some of these can bleach paint and discolor nonfinished and anodized aluminum. Non-etching cleaners are alkaline or acid-based formulations mixed with inhibitors, which permit the cleaner to remove soil without attacking the metal or its finish. Some mixtures may irritate the skin on contact. Rubber gloves or a long-handled fiber brush should be used. After cleaning, the aluminum should be thoroughly washed with clear water and dried.

**3a.2: Solvent and Emulsion Cleaners:** Solvent and emulsion cleaners are more effective on stains and soils than cleaners in the first group. Solvents and emulsion cleaners may be used without difficulty on bare, anodized, conversion coated and porcelainized aluminum. When used on painted (and lacquered) finishes, solvent and emulsion cleaners should be spot tested first. The wrong solvent or solvent containing emulsion can remove many of the paints and clear organic coatings (lacquers) used with aluminum. Both mild cleaners and the solvent emulsion cleaner will remove dirt and some stains. They will not, however, restore the appearance of aluminum that has weathered nor remove heavy grime encrustation. For these conditions a more aggressive cleaner is required.

**3a.3: Abrasive Cleaners:** Abrasive cleaners will restore weathered aluminum and remove most stains and grime. These cleaners are manufactured and sold under various generic descriptions including polish, cleaner, cleaner-polish, wax-cleaner, wax polish, metal brightener, scouring powder and the like. Their effectiveness on various soiled and darkened aluminum depends on their formulation and vigor of application. Abrasive cleaners contain abrasives to which water, oil, wax, silicones, soap and an acid or alkali may be added, either in singles or in combinations. The abrasives remove the dirt and surface oxidations; the soaps, acids and/or alkalies clean. Traces of the wax, oil, or silicones remain behind after the compound has been applied and removed. They provide luster and a moderate amount of protection. Abrasive cleaners containing fine grit or polishing agents may be used with care on all aluminum finishes. Care is necessary because even the finest polishing agent is an abrasive and prolonged rubbing may dull a bright specular finish in time.



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#### **3a.3: continued:**

For the ultimate in specular finishes, the metal must be buffed. Household cleaners often contain coarse abrasives. They should never be used on any surface other than porcelain without caution. Cleaners containing moderately coarse grit may be used freely on porcelain finishes only. All other finishes require considerable caution. Moderate abrasives can dull a bright finish in a relatively short time. Cleaners in this group are often used to remove heavy soils and oxides prior to final cleaning and polishing with a fine grit cleaner. When this is done, the abrasive cleaner must be thoroughly removed before the fine polish is applied, otherwise a few grit particles that remain on the surface will produce noticeable scratches.

Applied to bare aluminum, moderate abrasives produce a finely scratched, light gray surface. The scratches are easily blended into a matte or satin finish by working the abrasive with the grain of the metal. Steel wool acts as an abrasive when rubbed against a finish. When applied to aluminum, all the steel particles left behind must be removed, or the steel will rust and leave stains. Stainless steel wool is therefore preferable. Abrasive cleaner polishes are applied to a clean cloth and rubbed over the soiled area. This is followed by polishing with a clean, dry cloth. Cleaner-polishes leave a thin wax or wax-like coating for added protection. However, this film will inhibit the adhesion of any subsequently applied paint or lacquer. If the aluminum is to receive an organic coating, do not use a cleaner-polish unless solvent cleaning is possible before application of the coating. If the cleaner-polish contains silicones, even solvent cleaning may not assure good adhesion. Large areas may be cleaned with the help of power-driven polishes and buffers.

Caution must be exercised to assure that the high-speed wheel of the buffer doesn't cut into the finish and that pressure is kept moderate to avoid overheating the finish.

Wheel pads should be changed frequently to make certain abrasive particles do not build up and create an undesirable sanding effect. Coarse abrasive cleaner are sometimes used to prepare anodized surfaces for painting. Pressure should be light to avoid deep scratches, which may be visible through the paint. Coarse abrasive cleaners and moderate abrasive cleaners are sometimes combined with active chemical compounds. This combination will produce a fast-acting cleaner that must be used with care.

Bare or mill aluminum is sensitive to chemical – based cleaners, which may etch the finish if permitted to remain too long. Anodized aluminum may develop white blemishes if chemical cleaners remain in place too long.



**3a.4: Etching Cleaners:** Etching cleaners are normally added to water and applied to heavily weathered and soiled, bare or mill aluminum. They should be applied with cautions as they remove small quantities of metal each time they are used. Etching cleaners are not normally used on painted, plated, anodized or conversion coatings. There are a number of proprietary etching cleaner formulations on the market and each manufacturer's directions in the matter of cleaner concentration, exposure time and safety should be carefully followed. The general procedure for this formulation follows: Prepare the mixture and apply it carefully with a sponge or brush to "work" for the recommended time then thoroughly rinse with cool water. Continue in this matter until finished. For uniform results the metal should be free of grease. After the solution has been rinsed away, the metal's surface may become slightly frosty. This will be similar in appearance to aluminum that has had a caustic etching.

**3a.5: Special Cleaners:** Special cleaners include steam and abrasive blasting. Steam may be applied without excessive cautions on bare or mill, plated and porcelain aluminum finishes. Steam jets should not be brought too close nor held too long on paint, which may soften or lose adhesion, nor on anodized or conversion coated finishes, which may blush or craze if overheated or exposed very long. When a cleaner is added to the steam, the cleaned part must be washed down in clean water prior to drying. Abrasive blasting will produce a roughened, matte finish by removing the metal. This procedure is employed to put a mechanical finish on new work. A protective coating is recommended because the new finish soils and fingerprints very easily. Always use clean, fine abrasive. Do not reclaim abrasive for cleaning other material. Abrasive blasting should be used with extreme caution on thin sections of aluminum, since distortions of the metal may occur.