

CLEANING & MAINTENANCE

SPECIFICATION FOR

PERFORMANCE

LEATHERS & TEXTILES

Table of Contents

Section I: Purpose	2
Section II: List of Unauthorized Chemicals & Processes for Leather	3-4
Section III: Recommendations for Care & Cleaning of Leather (Commercial)	5-6
Section IV: Instructions for Cleaning Leather Dress Covers — on Aircraft (Commercial)	7
Section V: Recommended Cleaning Intervals (Commercial)	8
Section VI: Dress Cover Refurbishment & Repair Intervals (Commercial)	9
Section VII: Leather Dress Cover Storage	10
Section VIII: Leather Hide Storage	11
Section IX: Recommendations for Care & Cleaning of Leather	12-14
(Premium Class, Corporate or VIP grades)	
Section X: Instruction for Cleaning Leather Dress Covers — on Aircraft	15
(Premium Class, Corporate or VIP grades)	
Section XI: Recommended Cleaning Intervals	16
(Premium Class, Corporate or VIP grades)	
Section XII: Leather Refurbishment & Repair Intervals	17
(Premium Class, Corporate or VIP grades)	
Section XIII: Leather Hides Storage	18
(Premium Class, Corporate or VIP grades)	
Cleaning Alcantara	19-20
Cleaning EnduraLite/Storage	21-22
Cleaning Other Performance Textiles	23-25
Information for Consultation	26

SECTION I:

Document Purpose

- 1.1 Proper care of aerospace leather and textiles, including routine cleaning and maintenance, is imperative to the service life of the material. Aircraft owners, (both internally or contracted cleaning crews) can unknowingly use damaging chemicals and procedures on or around their seats / seat covers. Such practices can temporarily or permanently damage performance leathers and textiles. In addition, unauthorized use of cleaning products or procedures can void the warranty of your leather or textile.
- 1.2 This specification is to serve as a guideline and manufacturer recommendation to assist with the proper care and maintenance of performance leathers and textiles provided by Perrone Aerospace.
- 1.3 Please note that this specification details proper cleaning and maintenance procedures based on the mission of the aircraft, and substrate (leather or textile) to be properly cleaned and maintained. If you are unsure of the proper practice to clean and maintain your specific leather or textiles, please refer to the contact information at the end of this document for specific consultation.

SECTION II:

List of Unauthorized Chemicals & Processes for leather

- 2.1 Some chemical groups can melt into the finish system and/or cause damage, such as removing the protective top coat, leading to tacky feeling leather and / or color transfer:
- 2.2 Solvents or petroleum-based solvents such as acetone, methyl ethyl ketone (MEK), mineral spirits, lacquer thinner, and isopropyl alcohol.
- 2.3 Organic solvent groups, such as esters, ethers, ketones, amines, nitrates, and chlorinated hydrocarbons.
- 2.4 High alkaline cleaners (pH in excess of 9.5 measured) or acid based products (pH of 5.5 or less) such as most heavy-duty degreasers, products containing bleach, ammoniated cleaners, d'limonene based products, bathroom cleaners containing acids, terpenes or most parts washer fluids.
- 2.5 Dry cleaning, steam cleaning or the use of heat guns on leather can do the following to the finish system of leather:
 - a.) Premature cracking, b.) Change the "hand" or feel of your leather,
 - c.) Discoloration, d.) Adverse effects on flammability, e.) Delamination
- 2.6 "Oil" type soaps can leave behind tacky residue causing increased staining, chemical build-up and soil adherence. These types can also harm finish of dress cover if left on leather.
- 2.7 Use of abrasive cleaning tools such as plastic or metal bristle brushes. These brushes can be too harsh on the finish system of the leather. Our recommendation is to utilize a genuine horsehair brush to apply cleaning chemicals to leather. This will help to agitate and remove soils within the grain pattern of the leather.
- 2.8 Application of aftermarket sealants or stain blocking agents that are not recommended by the leather manufacturer. These products can change the color and feel of your leather. In addition, they can prevent future repair options for your leather finish.

SECTION II (CONTINUED):

- 2.9 Any on-wing leather repair process. Leather repairs are recommended to be performed in a controlled environment such as an FAA/EASA Part 145 Repair Station that is auditable and accountable for performed procedures. On-wing leather repair can lead to issues with safety, traceability, flammability rating, durability, overspray of leather finish entering ventilation system, color consistency and, ultimately voiding warranty of your leather dress covers.

SECTION III:

Recommendations for Care & Cleaning of Leather –Commercial Leathers

- 3.1 Always pretest your products in a hidden and unhidden area before widespread use. Thoroughly read product packaging and instructions prior to use. Always use cleaning products in a manner that is consistent with labeling.
- 3.2 Use Perrone’s Deep Cleaner (#DC-332, #DC-232 or #DC-132) to remove soil build-up on leather dress covers. Spray liberal amount of product (approx. 1 oz. per Tourist Class dress cover) onto a clean, genuine horsehair brush, gently agitating soiled areas, panel by panel. Remove any excess build-up of chemical and soiling with a clean, lint-free cloth such as a micro-fiber towel. Continue this process until the leather is dry to the touch.
- 3.3 Dispense Perrone’s Leather Conditioner (#CN-216 or #CN-116) (approx. 1 oz. per Tourist Class dress cover) onto a clean, lint-free rag or cloth and wipe down covers, panel by panel. Lightly remove any excess build-up of chemical on dress cover. Allow to air dry.
- 3.4 **Fresh ink removal on leather dress covers.** Use Perrone’s Ink & Stain Remover for top coated leathers (#IR-202, #IR-228, #IR-102 or #IR-128). This product is designed to remove fresh ink stains without damaging the top coated leather. Saturate the mark with Ink Remover. Wait 3-5 minutes, then wipe with clean cotton swab or clean white cloth. Rotate cotton swab or cloth so that you do not re-deposit ink stain. For heavy marks, repeat this process until stain is removed. Use Perrone’s Deep Cleaner to remove any residue left from this process.
- 3.5 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone’s MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.

SECTION III (CONTINUED):

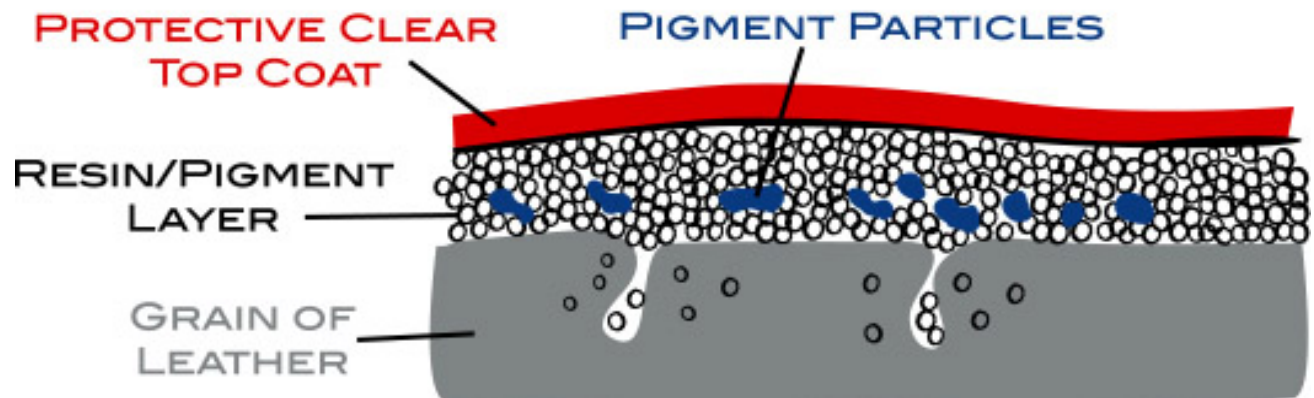
Ink and Gum Removal

- 3.5 **Dried ink removal on leather dress covers.** Note that dried or “set-in” ink stains have permeated under the protective clear top of leather and can only be removed by properly re-finishing the leather. *See the Cross Section of Leather diagram below for reference.* However, any surface ink can easily be removed by using Perrone’s Ink Remover without causing damage to the leather surface. Follow procedures listed above for fresh ink removal. To properly repair dried ink stains, please send these parts to Perrone Aerospace’s FAA / EASA Part 145 Repair

Station for inspection and repair.

- 3.6 **Gum Removal on leather dress covers.** Use Perrone's Deep Cleaner to soften gum. Apply a minimal amount of Deep Cleaner to the gum and allow to dwell for 1 minute. Using a wooden craft stick or spatula, carefully remove the gum from the affected area. Use special care during this process so that you do not damage the leather underneath the gum. Never use sharp or metal objects to remove gum as they can damage the leather underneath. Once gum has been removed, use Perrone's Deep Cleaner in conjunction with a horsehair brush to clean the area. Wipe excess chemical and soil with a clean, lint-free towel such as a micro-fiber towel.

CROSS SECTION OF LEATHER



- 3.7 **Abraded / Damaged Leather:** If the top coat of your leather has been compromised by using cleaners, solvents and other substances not recommended for leather cleaning, and you notice color transfer to your cleaning towel immediately discontinue use and send a sample to Perrone FAA Repair Station for consultation and / or repairs.

SECTION IV:

Instruction for Cleaning Leather Dress Covers — ON AIRCRAFT – Commercial Leathers

- 4.1 As some surfaces are inherently sensitive to cleaning products, always pre-test your products on both a hidden and unhidden area before widespread use on leather.
- 4.2 Apply liberal amount of cleaning solution (approx. 1 oz. per PAX) onto a horsehair brush and gently agitate soiled area panel by panel. Do not spray product directly on the leather. Wipe excess cleaning solution and soil off with clean rag, towel or cloth.
- 4.3 Use all products in a manner that is consistent with product specification sheets and product packaging.

Important Note:

- 4.4 Use Perrone Aerospace's cleaning and conditioning products on finished leather surfaces only. It is not recommended to use cleaning solutions or conditioners on unfinished leather products such as naked, suede or Nubuck leathers.
- 4.5 If your current cleaning work instruction differs from this specification, you may submit a copy of your work instruction and chemicals to Perrone for review and consultation. Please note that Perrone Aerospace's consultation on products and procedures, other than our own products, are simply observations. Perrone Aerospace will be held harmless for any and all claims based on these observations. Perrone Aerospace does not recommend or condone the use of any products on our performance leathers and textile offerings, other than our own branded chemicals. For both short and long-term effects of cleaning agents on our leather, please reach out to an independent laboratory for confirmatory testing.
- 4.6 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone's MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.

SECTION V:

Recommended Cleaning Intervals – Commercial Leathers

- 5.1 On Aircraft: It is recommended for you to clean and condition your commercial dress cover (1) time per month, every 200-flight hours or more often as soiling and general conditions dictate.
- 5.2 Off Aircraft: It is recommended that when your seat and/or seat covers are removed from aircraft that they are thoroughly inspected, cleaned and conditioned. Perrone recommends that cleaning is performed by your trained internal cleaning staff, maintenance staff or an outside contractor that also offers leather repair options.
- 5.3 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone’s MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.

SECTION VI:

Dress Cover Refurbishment & Repair Intervals – Commercial Leathers

- 6.1 Leather dress covers are to be removed from the seat frame at years 2, 4 and 6 from date of manufacture and be refurbished and/or repaired to maximize service life. This schedule can also be modified to coincide with an airline's heavy maintenance schedule based on aircraft model maintenance requirements.

SECTION VII:

Leather Dress Cover Storage

- 7.1 The ideal environmental condition for storing leather is 70°F (21°C) at 50% relative humidity. Avoid temperatures less than 32°F (0°C) and above 85°F (29°C). Hot and/or humid temperatures can affect the integrity of leather and possibly cause mold and mildew.
- 7.2 Do not store leather in cartons or plastic. The ideal way to store leather in hide form is on a horse with finished sides facing each other. For leather that is in cut or assembled in part form, do not stack or fold. We recommend single racks for storage of these parts.
- 7.3 Avoid exposing leather to direct sunlight and air containing reactive chemical fumes.
- 7.4 For specific questions regarding the storage of leather, contact Perrone Aerospace at (800) 871-5847.

SECTION VIII:

Leather Hide Storage

- 8.1 Be certain to remove the hides from their cartons upon arrival at your facility, unroll from tubes, and discard any packing materials (including paper and foam).
- 8.2 Always store your hides away from direct sunlight. Direct sunlight will dry out hides and may cause them to fade over time.
- 8.3 Space permitting, hides should be stored flat with even support from one end to the other by placing long pieces horizontally. Alternatively, hides may also be stored over racks or “horses” using care to avoid any creases or folds.
- 8.4 Sharp edges of dust particles can be abrasive to leather. Hides may be covered with breathable material such as cotton. DO NOT USE PLASTIC.
- 8.5 Maintain a humidity level surrounding your hides at 45 – 55%. Maintain a preferred temperature of 65° – 75° F (18°- 24° C), but never less than 40°F (4°C) or greater than 75°F (24°C).

SECTION IX:

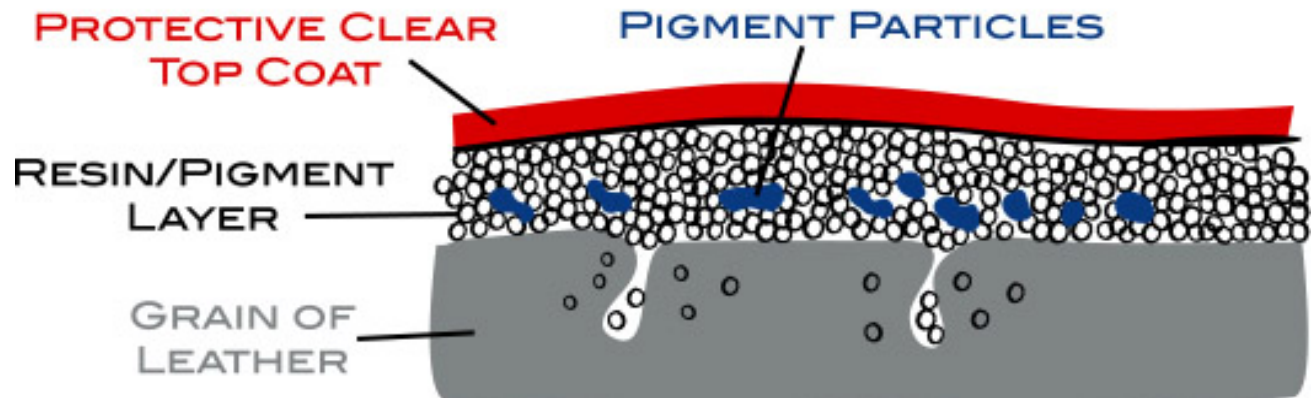
**Recommendations for Care & Cleaning of Leather –
Premium Class, Corporate or VIP Grades of Leather**

- 9.1 Always pre-test your products in a hidden and unhidden area before widespread use. Thoroughly read product packaging and instructions prior to use. Always use cleaning products in a manner that is consistent with labeling.
- 9.2 Use Perrone’s Cleaner with Conditioner (#CC-332, #CC-232 or #CC-132) to remove soil build-up on leather dress covers. Spray liberal amount of product (approx. 2 oz. per seat) onto a clean, genuine horsehair brush, gently agitating soiled areas, panel by panel. Remove any excess build-up of chemical and soiling with a clean, lint-free cloth such as a micro-fiber towel. Continue this process until the leather is dry to the touch.
 - 9.2.1 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone’s MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.
- 9.3 Dispense Perrone’s Leather Conditioner (#CN-116 or #CN-216) (approx. 2 oz. per seat) onto a clean, lint-free rag or cloth and wipe down covers, panel by panel. Lightly remove any excess build-up of chemical on dress cover. Allow to air dry.
- 9.4 Fresh ink removal on leather seating. Use Perrone’s Ink & Stain Remover for top coated leathers (#IR-102, #IR-202, #IR-128, and #IR-228). This product is designed to remove fresh ink stains without damaging the top coated leather. Saturate the mark with Ink Remover. Wait 3-5 minutes, then wipe with clean cotton swab or clean white cloth. Rotate cotton swab or cloth so that you do not re-deposit ink stain. For heavy marks, repeat this process until stain is removed. Use Perrone’s Deep Cleaner (#DC-332, #DC-232, #DC-132) to remove any residue left from this process.

SECTION IX (Continued):

- 9.5 Dried ink removal on leather. Note that dried or “set-in” ink stains have permeated under the protective clear top of leather and can only be removed by properly re-finishing the leather. See the Cross Section of Leather diagram below for reference. However, any surface ink can easily be removed by using Perrone’s Ink Remover without causing damage to the leather surface. Follow procedures listed above for fresh ink removal.
- 9.6 Gum Removal on leather. Use Perrone’s Deep Cleaner to soften gum. Apply a minimal amount of Deep Cleaner to the gum and allow to dwell for 1 minute. Using a wooden craft stick or spatula, carefully remove the gum from the affected area. Use special care during this process so that you do not damage the leather underneath the gum. Never use sharp or metal objects to remove gum as they can damage the leather underneath. Once gum has been removed, use Perrone’s Deep Cleaner in conjunction with a horsehair brush to clean the area. Wipe excess chemical and soil with a clean, lint-free towel, such as a micro-fiber towel.

CROSS SECTION OF LEATHER



- 3.7 Abraded / Damaged Leather: If the top coat of your leather has been compromised by using cleaners, solvents and other substances not recommended for leather cleaning, and you notice color transfer to your cleaning towel immediately discontinue use and send a sample to Perrone FAA Repair Station for consultation and / or repairs.

SECTION IX (Continued):

Cleaning Naked, Nubuck, Suede or Unfinished Upholstery Leather

- 9.7 Use Perrone Refining Billet (#RBT-01) in conjunction with Perrone's Micro Lather Cleaner (#ML-106, #ML-132) in a manner consistent with label for cleaning Naked, Nubuck, Suede or Unfinished Upholstery Leather.
- 9.8 Regular cleaning of Nubuck can best be done using a vacuum cleaner and then brushing the nap back up using a genuine horsehair brush (Perrone's #BR-01, #BR-02). When spills do occur, blot excess liquid immediately with a clean white absorbent cloth or sponge. If necessary, use clear lukewarm water and a clean, white cloth that is well wrung and gently wipe the spill dry using a blow dryer. At the same time, brush the affected area with a soft horsehair brush.
- 9.9 For oil and grease stains, first wipe off oil or grease using a clean, white, dry cloth. Do not apply water to try to wash these types of stains because it usually only pushes the stain in deeper or smears it. After wiping up the stain, leave it alone as the spot should dissipate into the leather in a short period of time.
- 9.10 If the spot does not dissipate in several days, try sprinkling the area with baking flour, then cover it with a damp towel. Allow this to set for about one hour. Remove the damp cloth, dry with a blow dryer, vacuum up the flour and brush the nap back up using a soft nylon brush. Repeat this procedure until the spot is removed.

SECTION X:

**Instruction for Cleaning Leather Seating - ON AIRCRAFT -
Premium Class, Corporate or VIP Grades of Leather.**

- 10.1 As some surfaces are inherently sensitive to cleaning products, always pre-test your products on both a hidden and unhidden area before widespread use on leather.
- 10.2 Apply liberal amount of Perrone's Leather Cleaner with Conditioner (#CC-332, #CC-232, #CC-132) - approx. 2 oz. per PAX onto a horsehair brush and gently agitate soiled area, panel by panel. Do not spray product directly on the leather. Wipe excess cleaning solution and soil off with clean rag, towel or cloth.
- 10.3 Use all products in a manner that is consistent with product specification sheets and product packaging.

Important Note:

- 10.4 Use Perrone Aerospace's cleaning and conditioning products on finished leather surfaces only. It is not recommended to use some cleaning solutions or conditioners on unfinished leather products such as naked, suede or Nubuck leathers.
- 10.5 If your current cleaning work instruction differs from this specification, you may submit a copy of your work instruction and chemicals to Perrone for review and consultation. Please note that Perrone Aerospace's consultation on products and procedures other than our own products are simply observations. Perrone Aerospace will be held harmless for any and all claims based on these observations. Other than Perrone's line of cleaning and maintenance products, Perrone Aerospace does not recommend or condone the use of any products on our performance leathers and textile offerings. For both short and long term effects of cleaning agents on our leather, please reach out to an independent laboratory for confirmatory testing.
- 10.6 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone's MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.

SECTION XI:

**Recommended Cleaning Intervals –
Premium Class, Corporate or VIP Grades of Leather**

On Aircraft

- 11.1 It is recommended for you to clean and condition your commercial dress covers (1) time per week, or more often as soiling and general conditions dictate.
- 11.2 For Ink Stains on leather, remove these stains immediately using Perrone’s Ink Remover for finished leather. Ink that is dried and set-in is considered a damage and cannot be removed without damaging your leather. Refer to a trained leather repair technician for damaged leather.
- 11.3 If your team conducts a daily wipe down of leather dress covers, we recommend using a water dampened Micro-denier Leather Cleaning Towel (Perrone’s MF-01) only. For routine cleaning such as a 30-day cleaning, please refer to our standard cleaning process in Section V, Page 8 and/or Section XI, Page 16.

Off Aircraft

- 11.44 It is recommended that when your seats are removed from the aircraft that they are thoroughly inspected, cleaned and conditioned. Perrone recommends that cleaning is performed by your trained internal cleaning staff, maintenance staff or an outside contractor that also offers leather repair options.

SECTION XII:

**Leather Refurbishment & Repair Intervals –
Premium Class, Corporate or VIP Grades of Leather.**

- 12.1 Leather should only be repaired as needed. This process should only be performed by a trained leather repair professional in a controlled environment, using OEM approved materials.
- 12.2 Care and testing should be performed when repairing aviation leather to ensure that the repair has no adverse effect on the flammability rating of the leather.
- 12.3 For consultation on a reference for a leather repair professional in your area, please contact Perrone Aerospace at (800) 871-5847 ext. 170.

SECTION XIII:

**Leather Hides Storage –
Premium Class, Corporate or VIP Grades of Leather.**

- 13.1 Be certain to remove the hides from their cartons upon arrival at your facility, unroll from tubes, and discard any packing materials (including paper and foam)
- 13.2 Always store your hides away from direct sunlight. Direct sunlight will dry-out hides and may cause them to fade over time.
- 13.3 Space permitting, hides should be stored flat with even support from one end to the other by placing long pieces horizontally. Alternatively, hides may also be stored over racks or “horses” using care to avoid any creases or folds.
- 13.4 Sharp edges of dust particles can be abrasive to leather. Hides may be covered with breathable material such as cotton. DO NOT USE PLASTIC.
- 13.5 Maintain a humidity level surrounding your hides at 45 – 55 percent. Maintain a preferred temperature of 65° – 75° F (18°- 24° C), but never less than 40°F (4°C) or greater than 75°F (24°C).
- 13.6 Avoid exposing leather to direct sunlight and air containing reactive chemical fumes.
- 13.7 For specific questions regarding the storage of leather, contact Perrone Aerospace at (800) 871-5847.

ALCANTARA®

For General Light Duty Cleaning

1. Alcantara is inherently resistant to most stains and soils. Vacuum or wipe material down with a dry micro-fiber cloth or gently brush with a genuine horsehair brush until soils are removed.
2. If soils still remain, use Perrone's Alcantara® Cleaner (#AL-108) for cleaning your Alcantara upholstery in conjunction with a clean cloth or horsehair brush.
3. Instructions:
 - a. Spray or soak Alcantara Cleaner solution into cloth or the bristles of a horsehair brush.
 - b. Apply cloth or brush to the upholstery surface and agitate in a random circular motion.
 - c. Vacuum, blot or absorb soil and excess chemical with a clean, soft cloth or cotton swab.

For Heavy Duty Cleaning:

1. Use Perrone's Alcantara® Cleaner (#AL-108) for cleaning your Alcantara upholstery in conjunction with a clean cloth, cotton swab or horsehair brush.
2. Please refer to instructional video: <https://www.youtube.com/watch?v=U99zFPqWQ-4> for a detailed process.
3. Instructions:
 - a) Spray Perrone's Alcantara Cleaner into the bristles of a horsehair brush, microfiber towel or cotton swab.
 - b) Apply horsehair brush to the Alcantara surface and agitate in a circular motion.
 - c) Vacuum, blot or wipe-off soil and excess chemical with a clean, soft cloth.
 - d) For extremely heavily soiled areas, repeat steps (a) through (c).

For Dried Ink Stains, Coffee, Grease or Wine Stains:

1. Use Perrone's Refining Billet (#RBT-01) as needed to remove stubborn stains that cannot be removed by following general cleaning instructions.
2. For best results, go after stains as soon as possible.
Instructions:
 - a. Gently work the billet over the stained area until removed.
 - b. Remove excess billet fibers by brushing the area with a clean, genuine horsehair brush.
 - c. If stain still remains, refer to Heavy Duty Cleaning recommendations above.

Frequency of Cleaning:

1. It is recommended that Alcantara® be cleaned every 30 days in a commercial seating application.
2. For stubborn stains, clean as needed.
3. For best results, it is recommended to go after stains as quickly as they occur.

Recommended Amount of Cleaning Product Per Passenger Place:

1. Use approximately 1 oz. per (economy) passenger place of Perrone's Alcantara® Cleaner (#AL-108) for the cleaning of Alcantara® brand fabrics.
2. Use Perrone's Refining Billet (#RBT-01) as needed for dried ink, stains and heavy soiling.
Review www.allleathermaintenance.com for continued updates on cleaning instructions of Alcantara® and other Perrone cleaning products.

EnduraLite® Engineered Leather Fabrics

For General Light Duty Cleaning

1. Use a mild soap and water solution for cleaning Enduralite in conjunction with a clean cloth or horsehair brush.
2. Instructions:
 - a) Spray/soak the mild soap and water solution into cloth or the bristles of a horsehair brush.
 - b) Apply brush to the EnduraLite surface and agitate in a random circular motion.
 - c) Wipe-off soil and excess chemical with a clean, soft cloth.

For Heavy Duty Cleaning:

1. Use Perrone's Deep Cleaner (#DC-332, #DC-328, #DC-305, #DC-355) for Leather in conjunction with a horsehair brush to effectively remove heavy body oils and soils.
2. Instructions:
 - a) Spray Perrone's Deep Cleaner into the bristles of a horsehair brush.
 - b) Apply brush to the EnduraLite surface and agitate in a random circular motion.
 - c) Wipe-off soil and excess chemical with a clean, soft cloth.
 - d) For extremely heavily soiled areas, repeat steps (a) through (c).

For Ink & Stains:

1. Use Perrone's Ink & Stain Remover as needed to remove stubborn stains that cannot be removed by following general cleaning instructions.
2. For best results, go after stains as soon as possible.

Instructions:

- a. Use a cotton swab or tip of clean cloth to locally apply Perrone's Ink & Stain Remover to the stain area.
- b. The cleaning agent will immediately start to break up stain from EnduraLite surface.
- c. Wipe affected area by constantly turning clean, dry part of cotton swab or cloth as to not re-deposit stain.

Gum Removal:

1. Use Perrone's Deep Cleaner for Leather (#DC-332, #DC-328, #DC-305, #DC-355) to effectively remove gum from EnduraLite.
2. Allow product to soften gum to allow mechanical removal.
3. For best results, go after gum areas as soon as possible following the instructions listed below.

Instructions:

- a. Spray Perrone's Deep Cleaner directly onto the gum area.
- b. Allow product to stand on the gum area for 3-5 minutes.
- c. Using a wood craft stick or similar, mechanically remove the softened gum.
- d. If any gum residue remains, use Perrone's Deep Cleaner in conjunction with a horsehair bristle brush. Follow general cleaning instructions.

Frequency of Cleaning:

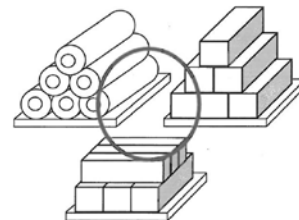
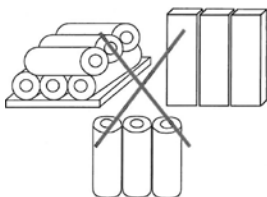
1. It is recommended that EnduraLite be cleaned every 30 days in a commercial seating application.
2. For stubborn stains, clean as needed.
3. It is recommended to go after stains as quickly as they happen.

Recommended Amount of Cleaning Product Per Passenger Place:

1. Use approximately 1 oz. per (economy) passenger place of cleaning solution for the light duty cleaning of EnduraLite.
2. Use approximately 1 oz. per (economy) passenger place of Perrone's Deep Cleaner (#DC-332, #DC-328, #DC-305, #DC-355) for the heavy-duty cleaning of EnduraLite.
3. Use Perrone's Ink & Stain Remover as needed for ink, stains and heavy soiling.

Storage:

1. Avoid high-temperature, humidity and direct sunlight.
2. Keep the material in the box so that it won't get wrinkles.
3. Do not pile the rolls parallel crossed.
4. They can be piled parallel crossed only when material is unpacked.
5. Do not place the rolls/unpacked boxes vertically.
6. The rolls/unpacked boxes should be piled in three triangular layers.
7. Do not put any heavy loads on the rolls.
8. Do not pack/wrap the rolls with material which is hard and has a rough surface.
9. Do not tie with rope or any other banding /binding straps.
10. Do not put rolls directly on a pallet, but put cushioning in between.



Cleaning other performance textiles:

General Maintenance of MIRAGE PLUS, MIRAGE SS and Mirage GS (Glare Shield):

- **For Heavy Duty Cleaning:**
 - Use Perrone's Deep Cleaner (#DC-332, #DC-328, #DC-305, #DC-355) for Leather in conjunction with a horsehair brush to effectively remove heavy body oils and soils.
 - Instructions:
 - i. Spray Perrone's Deep Cleaner into the bristles of a horsehair brush.
 - ii. Apply brush to the surface and agitate in a random circular motion.
 - iii. Wipe-off soil and excess chemical with a clean, soft cloth.
 - iv. For extremely heavily soiled areas, repeat steps (a) through (c).

- **For Ink & Stains:**
 - Use Perrone's Ink & Stain Remover as needed to remove stubborn stains that cannot be removed by following general cleaning instructions.
 - For best results, go after stains as soon as possible.
 - Instructions:
 - I. Use a cotton swab or tip of clean cloth to locally apply Perrone's Ink & Stain Remover to the stain area.
 - II. The cleaning agent will immediately start to break up stain from fabric surface.
 - III. Wipe affected area by constantly turning clean, dry part of cotton swab or cloth as to not re-deposit stain.

- **Gum Removal:**
 - Use Perrone's Deep Cleaner for Leather (#DC-332, #DC-328, #DC-305, #DC-355) to effectively remove gum from MIRAGE PLUS, MIRAGE SS and Mirage GS (Glare Shield).
 - Allow product to soften gum for mechanical removal.
 - For best results, go after gum areas as soon as possible following the instructions listed below.
 - Instructions:
 - I. Spray Perrone's Deep Cleaner directly onto the gum area.
 - II. Allow product to stand on the gum area for 3-5 minutes.

- III. Using a wooden craft stick or something similar, mechanically remove the softened gum.
- IV. If any gum residue remains, use Perrone's Deep Cleaner in conjunction with a horsehair bristle brush. Follow general cleaning instructions.

- **Frequency of Cleaning:**

- It is recommended that MIRAGE PLUS, MIRAGE SS and Mirage GS (Glare Shield) be cleaned every 30 days or sooner in a seating or non-contact area application.
- For stubborn stains, clean as needed.
- It is recommended to go after stains as quickly as they happen.

- **Recommended Amount of Cleaning Product Per Passenger Place:**

- Use approximately 1 oz. per (economy) passenger place or 30 SF of cleaning solution for the light duty cleaning of MIRAGE PLUS, MIRAGE SS and Mirage GS (Glare Shield).
- Use approximately 1 oz. per (economy) passenger place of Perrone's Deep Cleaner (#DC-332, #DC-328, #DC-305, #DC-355) for the heavy-duty cleaning of MIRAGE PLUS, MIRAGE SS and Mirage GS (Glare Shield).
- Use Perrone's Ink & Stain Remover as needed for ink, stains and heavy soiling.

General Maintenance of Marquis:

- To prevent build-up of dirt and dust particles, vacuum the Marquis often with a soft brush attachment. Dry-cleaning with a solvent cleaning agent is recommended at regular intervals by a reputable professional cleaner specializing in aircraft interior detailing. Always advise the detailing specialist of the fiber content of the Marquis prior to any treatment.

Spot Cleaning Marquis:

- Immediately blot the affected area lightly with a clean, dry cloth. Use Perrone's Micro Lather for Upholstery (#ML-106, #ML-132) to remove spots and stains from Marquis. Always clean in accordance with labeling of cleaning product.
- It is recommended to consult a reputable professional cleaner, advising them of the type of stain and the fiber content of the Marquis. Always pre-test any recommended cleaning agent on a small, inconspicuous area of the Marquis to make sure there are no problems with colorfastness, shrinkage, or spotting.
 - Do not apply any solvent directly to the stain; moisten a clean cloth with the solvent and gently blot the stain. Do not over-saturate.
 - Work from the outer edge of the stain to the center. Do not rub the stain; this could damage the Marquis. Allow the spot to dry completely after cleaning.

Cleaning Sheepskin

- Sheepskin can be cleaned using Perrone's Micro Lather for Upholstery (#ML-108, #ML-132). Please follow directions on label for best use. Utilize a cold water rinse in conjunction with Perrone's Micro Lather Cleaner.
- Spray a small amount of Micro Lather onto a damp cloth, sponge or horsehair bristle brush. Work the liquid into a lather and gently apply and agitate to the area to be cleaned.
- Allow foam to dry on surface. Once dried, remove foam and stains with a vacuum, clean cloth or cotton swab. For stubborn stains, repeat an additional application.
- We suggest that you dry sheepskin away from heat or direct sunlight.
- Over time, sheepskin has a tendency to lose its original nap (or loft of wool fibers). The fibers can get matted down over time and are less comfortable to sit on. This is caused by repeated use and no fault of the material or user. To attempt to restore this nap, we recommend the combing or brushing out of the wool fibers with a pet brush or comb. This process will help, but never bring the sheepskin back to its original state. If this is the desired outcome, we recommend replacement of the sheepskin.

Information for Consultation

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