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1. Purpose: This standard describes the installed surface requirements for cosmetic wrapped buses. These requirements, with regard to appearance attributes, surface blemishes, and structural defects. The purpose of these appearance standards is to ensure the finish of the buses meet industry standard customer requirements.

2. Scope and Reference: This standard applies to buses produced by Proterra and represent the expectations of the finished product – the bus. This applies to the final appearance as seen by the customers. As a point of reference, this standard is based off of the common expectations in the United States Automotive Industry.

3. Design / Color Confirmation: The vendor shall be responsible for confirming design configuration, color pallet, and methods that will be used on the bus. Vendor is required to obtain written/ electronic approval from the customer’s representative prior to printing and applying wrap. This approval needs to be sent to Proterra Representative.

4. Inspection Process: The Wrap Inspection process is to be performed in the following manner

Inspector Proximity: The inspectors will perform the inspection at a distance of 3ft from the bus (Just over one arm’s length) normal to the part surface (90 Degrees from the bus), unless specifically stated.

Light Intensity: The inspection area shall be conducted in Natural light.

Color Acuity: Any person appraising the bus for color must be tested for the absence of Color blindness and demonstrate color acuity per ASTM – E 1499.

Light For Color Match: The lighting for color must meet SAE J 361




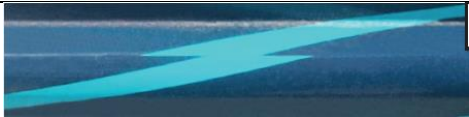
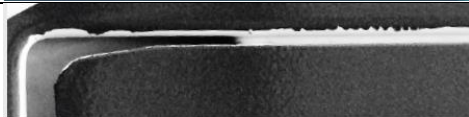


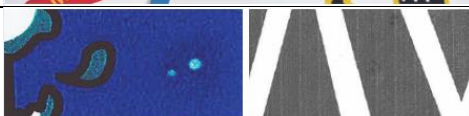




Objections and Deviations:

If the attributes of the wrap (complexity of design, coverage over unusual features, etc.) cannot be achieved by the wrap source, the Proterra Customer Program Management team must be contacted to articulate the concern and document an appropriate deviation.

If the customer inspectors have a standard that is stricter than the Inspection attributes listed in Table 2, the customer is entitled to their higher standard and will be charged fairly for the remedies needed to attain the higher standard preferred by the inspector.

5. Appearance Standards

No.	Attribute	Description	Measure Process	Inspection Criteria
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1	Bubbling		Visual Inspection	Any air bubbles of any size visible from a distance.
2	Lifting		Visual Inspection	Any lifting or unadhered film on any surface visible from a distance.
3	Wrinkles		Visual Inspection	Any wrinkles visible from 3ft away or wrinkles that jeopardize vinyl integrity.
4	Misalignment		Visual Inspection	Any misalignment over 2mm when viewed straight on.
5	Cuts		Visual Inspection	Any necessary cuts that do not appear straight.
6	Scratch Marks		Visual Inspection	Any deep scratches that damage the film. ¹
7	Off Color		Visual Inspection	Any incorrect colors visible. ²
8 A	Printer / Graphic Defects		Visual Inspection	Any banding, ink spots, pixilation, "fish eyes" or debris.
9	Surface Debris		Visual Inspection	Max 15 per bus under 1 mm separated by 100 mm.
10	Surface Defects		Visual Inspection	Any defects that will jeopardize the integrity of the film including cracking, debris, pitting, air pockets and natural fiberglass waves.
11	Incompatible Surfaces		Visual Inspection	Any graphics/vinyl installed over rubber, sika, rubber taper or silicon-based products.
12	Seams		Visual Inspection	Any seams under 1/4" and over 1/2". Any seams facing forward or top.

¹ – Note: Light surface laminate scratching up to 60 days after installation is to be expected and will improve with exposure to sunlight.

² – Note: Color must be evaluated in proper lighting condition (SAE J 361) using the approved color sample for reference only.

7. Revision History



FINISHED VEHICLE WRAP STANDARD

April , 2022

Date	Rev.	Approver	Description
8/19/2021	8/19/2021	Shawn White	Initial Release
4/11/2022	4/11/2022	Shawn White	Section 4 updated