California Department of Transportation
Division of Rail
Rolling Stock Procurement Branch

Technical Specification
For
Seat Fabric Pattern, Color and Material for
Passenger Seating for Intercity Rail Cars

Specification 9-103

Revision C.2
June 8, 2009
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1.0 Overview

The objective of this specification is to define the technical characteristics of the upholstery fabric to be used on passenger seats installed in intercity rail cars owned by the California Department of Transportation (Caltrans) and operated by Amtrak.

2.0 Regulations, Standards, Specifications and Drawings

APTA
SS-C&S-016-99, Rev 1: Standard for Row-to-Row Seating in Commuter Rail Cars

California Department of Transportation (Caltrans)

FRA
49CFR Part 238.103: Fire Safety
Appendix B to 49CFR Part 238: Test Methods and Performance Criteria for the Flammability and Smoke Emission Characteristics of Materials Used in Passenger Cars and Locomotive Cabs

3.0 Scope

This specification designates the color, pattern and material to be used on passenger seating as follows:

1. Single seats (single-passenger revenue seats)
2. Double seats (two-passenger revenue seats)
3. Flip-up seats (handicapped seating)
4. Lounge seating (non-revenue seating in passenger areas of food service cars)

Seats used on intercity passenger cars not covered by this specification:

1. Cab seats used in the operating cabs of locomotives or cab cars
2. Jump seats in galleys for use of food service employees
4.0 Abbreviations

APTA: American Public Transportation Association  
CFR: Code of Federal Regulations  
FRA: Federal Railroad Administration  
SAE: Society of Automotive Engineers

5.0 Applications

Primary fabric for seat cushions: Pattern fabric for use on bottom and back cushions of single, double and flip-up seats.


Armrest material: Durable material for use on right and left (outside) armrests for double and single seats, and center armrest and center cushion between seat bottoms on double seats.

Lounge seating: Pattern fabric for use on bottom and back cushions for bench-style lounge seats.

6.0 Fabric Specification

6.1 Pattern Fabric Application

Pattern fabric shall be applied to revenue seats as shown on the attached table:

<table>
<thead>
<tr>
<th>Car type</th>
<th>Seat Manufacturer</th>
<th>Pattern Fabric Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Car</td>
<td>Compin</td>
<td>F072510044GRL Blue Wave</td>
</tr>
<tr>
<td>Surfliner</td>
<td>Multina</td>
<td>F072510044GRL Blue Wave</td>
</tr>
<tr>
<td>Surfliner</td>
<td>Kustom Genesis</td>
<td>F072510046GRL Burgundy Wave</td>
</tr>
<tr>
<td>C21</td>
<td>Kustom Genesis</td>
<td>F072510046GRL Burgundy Wave</td>
</tr>
<tr>
<td>all future new seat procurements</td>
<td>all</td>
<td>F072510046GRL Burgundy Wave</td>
</tr>
</tbody>
</table>
### Pattern Fabric (Blue Wave)

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Lantal Textiles, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number and Name</td>
<td>F072510044GRL Blue Wave with Gore-Tex Backing</td>
</tr>
<tr>
<td>(applies to retrofit for <em>California Cars</em> and <em>Surfliners</em> only)</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>90% Wool / 10% Nylon</td>
</tr>
<tr>
<td>Weight</td>
<td>15.0 oz/sy (+/- 10%)</td>
</tr>
<tr>
<td>Width</td>
<td>54&quot;</td>
</tr>
<tr>
<td>Ends per Inch</td>
<td>88.8</td>
</tr>
<tr>
<td>Picks per Inch</td>
<td>55.0</td>
</tr>
</tbody>
</table>

### 6.2 Pattern Fabric (Burgundy Wave)

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Lantal Textiles, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number and Name</td>
<td>F072510046GRL Burgundy Wave with Gore-Tex Backing</td>
</tr>
<tr>
<td>Content</td>
<td>90% Wool / 10% Nylon</td>
</tr>
<tr>
<td>Weight</td>
<td>15.0 oz/sy (+/- 10%)</td>
</tr>
<tr>
<td>Width</td>
<td>54&quot;</td>
</tr>
<tr>
<td>Ends per Inch</td>
<td>88.8</td>
</tr>
<tr>
<td>Picks per Inch</td>
<td>55.0</td>
</tr>
</tbody>
</table>

### 6.3 Companion Fabric

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Lantal Textiles, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number and Name</td>
<td>F072500044PN Blue Wave Companion</td>
</tr>
<tr>
<td>Content</td>
<td>90% Wool / 10% Nylon</td>
</tr>
<tr>
<td>Weight</td>
<td>16.4 oz/sy (+/- 10%)</td>
</tr>
<tr>
<td>Width</td>
<td>54&quot;</td>
</tr>
<tr>
<td>Ends per Inch</td>
<td>88.8</td>
</tr>
<tr>
<td>Picks per Inch</td>
<td>55.0</td>
</tr>
</tbody>
</table>

### 6.4 Armrest Material

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Uniroyal Engineered Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number and Name</td>
<td>Phoenix Line #PH55 Royal Blue</td>
</tr>
<tr>
<td>Content</td>
<td>100% Naugahyde</td>
</tr>
</tbody>
</table>

### 6.5 Lounge Seating

To be determined.

### 6.6 Equivalency
Alternate suppliers may be identified for the above-referenced fabric materials provided that the alternate fabric meets all specified colors, physical properties, patterns, wear resistance, maintainability, composition and dimensions for those identified. Equivalency must be demonstrated to the Department’s satisfaction.

7.0 Performance Requirements

7.1 Wear Requirements
Upholstery fabric shall be tested for durability per APTA SS-C&S – 016-99, Revision 1, section 6.2, and the testing requirements of SAE J 1454.

Material shall not require overhaul or be shabby in less than four years.

Upholstery shall not experience stretching, pilling, puckering, shrinking, rippling, zippering, fading or other adverse affects to appearance or function due to normal use or periodic cleaning and maintenance, which may vary from daily to every 90 days.

7.2 Flame, Smoke and Toxicity Requirements
All upholstery fabric shall meet minimum safety criteria for flame per 49CFR Part 238.103 and Appendix B to 49CFR Part 238.

8.0 Manufacturer Cleaning Instructions

Seat fabric shall be cleaned per the manufacturer's recommended practices:

1. Vacuum to remove dirt.
2. Clean liquid spills immediately using paper towels.
3. Treat any spots with an upholstery spot cleaner or fabric-safe detergent solution and let sit for one minute. Flush cleaner out of fabric with clean water and blot dry.
4. For greasy or oily spills, blot as much of the spill as possible using a clean cloth. Use upholstery spot cleaner or fabric-safe detergent solution.
5. Never use cleaners that contain bleach or other chemicals that discolor fabrics.
9.0 Documentation

Supporting documentation for the seat fabric shall meet all contractual requirements for deliverables per the specification, and shall include the following at a minimum:

1. Flame, smoke & toxicity reports for combustible materials showing compliance with the requirements of 49CFR 238.103 and Appendix B to 49CFR Part 238.
2. Test report showing compliance with wear and durability testing requirements as set forth in APTA SS-C&S – 016-99, Revision 1.
3. Documentation showing compliance with this specification and all applicable APTA standards.

Documentation shall be submitted per the terms of the contract and technical specification.

* End of Specification *