

## Specifications for Property 18846-8 Black Woven Book Cover Material

### General Requirements

Suitable for use as a cover material for travel documents able to accept heat stamping of imitation gold foil; running on the Government Publishing Office (GPO) automatic binding equipment. Stock will be used in an air-conditioned production area maintained at  $24 \pm 3$  °C and  $45 \pm 10$  % relative humidity. Stock shall remain stable and usable throughout the ambient conditions listed.

All submissions will be evaluated using a 2 phase system. Each phase must be passed in order to place a cover material on the Qualified Products List (QPL). All materials will require Phase 1 analysis at least once a year or more often if deemed necessary to remain on the QPL.

### Specific Requirements:

| <u>PROPERTY</u>               | <u>LABORATORY REQUIREMENTS (PHASE 1)</u>                                                                                                                                                                                                                                                                                                 | <u>METHOD</u>                                   |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Composition                   | Cover material shall be 100% cotton fabric impregnated with pyroxylin, acrylic, polyurethane, or other non-migratory resin that accepts pressure stamp easily and is uniform in coating composition.                                                                                                                                     | Manufacturer's Data / Method A                  |
| Thickness                     | Average, inch ( $\pm 10\%$ )<br>(mm)                                                                                                                                                                                                                                                                                                     | 0.014<br>(0.35)<br>ASTM D1777                   |
| Weave                         | Drill                                                                                                                                                                                                                                                                                                                                    | 2 / 1<br>Method A                               |
| Weight                        | Average, finished cover, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$<br>Minimum, base cloth, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$                                                                                                                                                                                     | 10 (340)<br>5 (170)<br>T-410                    |
| Thread count                  | Per in <sup>2</sup> (cm <sup>2</sup> )                                                                                                                                                                                                                                                                                                   | 100 (40)<br>ASTM D3775                          |
| Breaking strength             | Minimum Warp / Filling, lb/in<br>(kN/m)                                                                                                                                                                                                                                                                                                  | 80 / 50<br>(14 / 8.8)<br>ASTM D5035             |
| Stiffness                     | Average, finished cover, Gurley Unit: MD $\pm 500$<br>CD $\pm 250$                                                                                                                                                                                                                                                                       | 1500<br>750<br>T-543, Note-(1)                  |
| Porosity                      | Minimum, seconds                                                                                                                                                                                                                                                                                                                         | 15<br>T-460                                     |
| Gloss (75°)                   | Average, finished cover, Gloss Units, $\pm 5.0$                                                                                                                                                                                                                                                                                          | 20.0<br>T-480                                   |
| Fade resistance               | Maximum color deviation after fade testing for 168 hours, delta E (CIELAB)                                                                                                                                                                                                                                                               | 1.0<br>ASTM G155, Table X3.1, Cycle 11-Note (2) |
| Surface and coating           | Cover material shall be soft and pliable but not oily; surface shall not crack when bent sharply. The back surface shall be receptive to a water-based polyvinyl acetate emulsion adhesive used to bond the end sheet. The top surface shall withstand the lamination process. When stretched, the surface coating shall show no defects | Method C                                        |
| Abrasion                      | Cover material surface shall show no wear at 200 revolutions.                                                                                                                                                                                                                                                                            | ASTM D3884-Note (3)                             |
| Color                         | Cover material topside shall be black to match established standard. (For information, the color coordinates are)                                                                                                                                                                                                                        | (L*=25.4<br>a*= 0.1<br>b*= -1.0)<br>ASTM D 2244 |
| <u>AND</u><br>Color deviation | Maximum, delta E (CIELAB)                                                                                                                                                                                                                                                                                                                | 1.0<br>Note (4)                                 |

## Specifications for Property 18846-8 Black Woven Book Cover Material

|                        |                                                                                                                                                                                                                                                                                     |                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Finish                 | Cover material shall be uniform in appearance, free of blemishes or defects and visually identical to current QPL cover material.                                                                                                                                                   | Method A-Note (5)                               |
| Size                   | Average sheet, inches (mm),<br>tolerance $\pm 1/16"$ (2 mm)                                                                                                                                                                                                                         | 16-7/16<br>by 7-7/16<br>(418 x 189)<br>Method B |
| Foil Stamping          | Cover material shall be able to cleanly accept foil stamping using the current qualified foil.                                                                                                                                                                                      | Method E                                        |
| Trim                   | Cover material shall trim with out fraying                                                                                                                                                                                                                                          | Method F                                        |
| Curl                   | Cover material shall lie flat on a piece of glass.                                                                                                                                                                                                                                  | Method D                                        |
| Ply                    | Cover material shall be single ply                                                                                                                                                                                                                                                  | Method A                                        |
| Grain (Warp)           | Cover material warp shall be in the long direction                                                                                                                                                                                                                                  | Method A                                        |
| Blocking               | Cover material shall not stick together                                                                                                                                                                                                                                             | ASTM D6116-Note (6)                             |
| <b><u>PROPERTY</u></b> | <b><u>FUNCTIONAL TEST REQUIREMENTS (PHASE 2)</u></b>                                                                                                                                                                                                                                | <b><u>METHOD</u></b>                            |
| Functional Test        | A Phase 2 test shall be performed for the cover material to evaluate performance on the GPO bindery equipment using a measure of production performance vs. cover material production defects.<br>Sample Quantity = 9000 sheets trimmed to size requirements                        | Method G                                        |
| Stiffness              | Cover material shall have appropriate stiffness to feed properly on the automatic binding equipment.                                                                                                                                                                                | Method G                                        |
| Trim                   | Cover material shall not fray when cut to size or trimmed with a die cutter.                                                                                                                                                                                                        | Method G                                        |
| Foil Stamping          | Cover material shall accept foil stamping from the bindery production equipment using current stamping foil.                                                                                                                                                                        | Method G                                        |
| Durability Analysis    | Test Cover in book format will be evaluated for the ISO method 9.2 Physical Durability Requirements (Cover Only) using the ISO method listed. The Analysis sequences to be evaluated are Storage, Thermal Shock, Back Pocket, Dynamic Bend, Torsion and Sheet Binding (Cover Only). | ISO18745-1<br>(Note 7)                          |

### Testing and References

Testing shall be conducted in accordance with cited methods. ASTM methods are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428 or through the website: <http://www.astm.org/>. Test methods designated T-XXX or TIS may be obtained from TAPPI 15 Technology Parkway S, Norcross, GA 30092 or at the website: <http://www.tappi.org/>

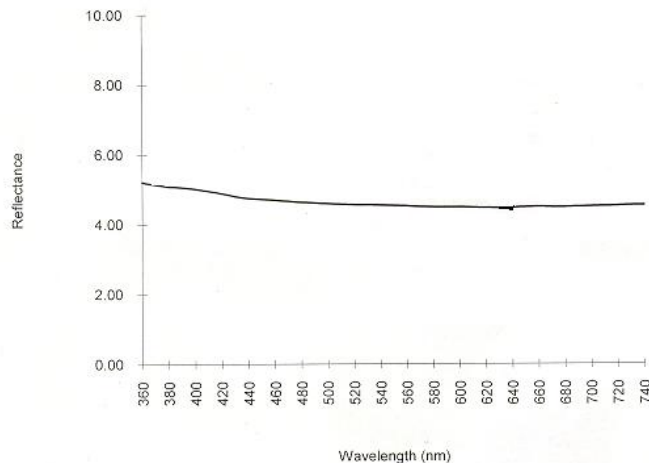
Note (1): TAPPI, T- 543 Gurley Stiffness method using a 2.5" x 2" (length x width) cover material sample with a 25 gram weight at 4".

Note (2): Test system uses a Xenon air cooled lamp at 765 W/m<sup>2</sup>/nm for 168 hours.

Note (3): Use 500-gram counter weights and Calibrase CS-10 mild green abrasion wheels. Run four samples, each to 200 revolutions. Compare samples to established standard for the cover material. Verify if coating is uniform to baseline by single beam Fourier transform infrared (FT-IR) spectroscopy.

## Specifications for Property 18846-8 Black Woven Book Cover Material

Note (4): Color testing conditions and metrics are as follows: CIELAB color space, Illuminant D65, 10° observer and specular component in. The color curve is provided for information only.



Note (5): A match to the current embossing pattern shall not be required for Phase 1 laboratory testing. All cover material for Phase 2 functional testing shall be required to match the current embossing pattern prior to beginning Phase 2 testing.

Note (6): Use an 11-pound (5-kg) weight, place 4 samples (front to front, back to front and back to back) between blotting boards and evaluate for blocking after 24 hours in the temperature and humidity conditions states.

Note (7): The physical evaluation will be performed after each stress method for Phase 2 testing only. No chip analysis will be performed in Phase 2. The cover physical evaluation criteria are:

- No damage is visible to the sample book spine post durability analysis.
- Opening the sample book to any page does not incur any additional damage to the Cover Cloth or Cloth spine.
- At least 50% of the Hot Stamp shall be intact post stress method.

**Method A:** Visually assess the composition, weave, finish and ply against the established standard. Machine Direction (MD or Warp) thread shall be perpendicular to Cross Direction (CD or Weft) thread. Report as **OK** or **Unacceptable**

**Method B:** Use an appropriate scaled measuring implement. Report results to the nearest millimeter (1/16"). Report as **Equal** or **Not equal**.

**Method C:** Personalization: The material shall pass through the State Department personalization equipment with no damage to the coating and withstand temperature up to 177°C (350°F) for a period of 45 seconds. Scratches or marks on the surface of the cover material resulting from the personalization process shall constitute failure of the test. Report as **OK** or **Unacceptable**.

Adhesion of coating to the base stock: The coating of a 6 by 6-inch (150 by 150-mm) sample cut 45 degrees to the warp or filling direction when clamped between 1 by 2-inch jaws under a load of 30 pounds (13.5 kg) for 30 seconds shall show no cracks, breaks, or pinholes. Report as **OK** or **Unacceptable**.

## **Specifications for Property 18846-8 Black Woven Book Cover Material**

**Method D:** Cover material shall be evaluated as it rests on a pane of glass in a temperature and humidity controlled room using the conditions listed under the general section as well as the size requirements. Cover material shall be acclimated for 24 hours prior to the start of evaluation. Cover material shall sit on the glass for 24 hours before evaluation is conducted. Total time prior to evaluation will be 48 hours. Cover material will be acceptable if there are no obvious variations of the edge to glass and no noticeable curl problems with the sample sheets. Report as **OK** or **Unacceptable**

**Method E:** Stamping will be performed using a sample pamphlet stamp. Lab test will be conducted using bindery stamping press and control foil against a standard sample of cover material and foil. Three samples will be prepared and compared to the current cover material. Test samples shall not show flaking and cover material coating will accept foil stamp cleanly. Foil shall not flake after 200 revolutions (as listed in the abrasion requirement). Report as **OK** or **Unacceptable**.

**Method F:** A stack of 25 sample sheets shall be cut using a trimming/cutting machine. The cover material shall not fray when trimmed. The cover material coating shall not be distorted nor shall the test sheets block. A sample is acceptable if the above criteria are met when comparing to a current QPL sample. Report as **OK** or **Unacceptable**.

**Method G:** For a new cover material to be acceptable for inclusion on the QPL, the test cover material must perform equal to the current QPL cover material. The Phase 2 will be conducted using 9000 sheets trimmed to size requirements. The cover material will be tested only after a successful completion of Phase 1. During the test, cover material will be evaluated for defects of general appearance before and after production, book spine integrity, stiffness, general feeding ability, appearance of stamp after stamping, trimming/die cutting, as well as all laboratory analysis. Report as **OK** or **Unacceptable**.

### Qualified Products

All products shall conform to the above specifications. Successful completion of both phases is required in order to be added to the QPL. The two phases are 1) laboratory testing of samples and 2) functional testing of cover material plus laboratory analysis. GPO shall notify sample submitter of test results and testing progress. In order for a product to be added to the QPL, the product shall meet all specification requirements for qualification.

Awards will be predicated on the use of a product listed below or on a product, which prior to the time set for opening of bids, has been tested and approved. The Contractor shall notify the GPO if there are changes to the production processes, manufacturing equipment, or vendors of raw materials.

The current Black Woven Book Cover Material (18846-8) on the QPL:

**Holliston LLC, H type, No. 19990 (820125)  
Holliston LLC, T type, No. 19990 (820879)**

**Specifications for Property 18846-8  
Black Woven Book Cover Material**

*Sample Requirement*

All solicitations require approval of the contracting officer prior to shipping of samples. Contact information is listed below.

*Acquisition Services*

*Chief, General and Paper Procurement*

*(202) 512-2022*

Bidder shall submit 100 sheets for Phase 1 laboratory testing that are representative of the process in the specified size for testing and evaluation. When approved for Phase 2 functional testing, bidder shall submit 9,000 sheets trimmed to Size requirements. The samples shall be submitted with an original signed and dated cover document with the following information:

(A) Solicitation number, (B) Marked as **QPL samples**, (C) Brand name and specific product identification number and (D) Product data sheet showing the typical properties of the product.

For qualification testing/evaluation, send samples to the address listed below:

*U.S. Government Printing Office*

*Attn: Chief, Testing and Technical Services*

*44 H Street, NW*

*Washington, DC 20401*

*Packaging of Approved Product*

Product shall be supplied as sheets on a pallet. The sheets on the bottom of the pallet shall be protected from damage caused by the boards or nails in the boards. The sheets shall be completely and securely wrapped to protect from moisture or other environmental influences. Wrapping material shall be heavy weight Kraft paper, laminated paper, or heavy corrugated paper. The cover material sheets shall be flush to the edge of the skid with no overhang to avoid damage to the sheets.

The pallets shall be banded 4 ways. The bands shall leave no crimp marks on the sheets or other damage that could adversely affect the quality of the finished pamphlets. The total weight of the pallets shall not exceed 2,500 pounds (1,200 kg). The pallets shall be made from solid pieces of wood; not from pieces of wood nailed together.

Each pallet shall have 10 lifts or layers; each lift containing 3,000 sheets; each 3,000-sheet lift consisting of 10 bundles of 300 sheets per bundle.

## Specifications for Property 29455-1 Flag Blue Woven Book Cover Material

### General Requirements

Suitable for use as a cover material for travel documents able to accept heat stamping of imitation gold foil; running on the Government Publishing Office (GPO) automatic binding equipment. Stock will be used in an air-conditioned production area maintained at  $24 \pm 3$  °C and  $45 \pm 10$  % relative humidity. Stock shall remain stable and useable throughout the ambient conditions listed.

All submissions will be evaluated using a 2 phase system. Each phase must be passed in order to place a cover material on the Qualified Products List (QPL). All materials will require Phase 1 analysis at least once a year or more often if deemed necessary to remain on the QPL.

### Specific Requirements:

| <u>PROPERTY</u>               | <u>LABORATORY REQUIREMENT (PHASE 1)</u>                                                                                                                                                                                                                                                                                                  |                                  | <u>METHOD</u>                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|
| Composition                   | Cover material shall be 100% cotton fabric impregnated with pyroxylin, acrylic, polyurethane, or other non-migratory resin that accepts pressure stamp easily and is uniform in coating composition.                                                                                                                                     |                                  | Manufacturer's Data / Method A           |
| Thickness                     | Average, inch ( $\pm 10\%$ )<br>(mm)                                                                                                                                                                                                                                                                                                     | 0.014<br>(0.35)                  | ASTM D1777                               |
| Weave                         | Drill                                                                                                                                                                                                                                                                                                                                    | 2 / 1                            | Method A                                 |
| Weight                        | Average, finished cover, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$<br>Minimum, base cloth, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$                                                                                                                                                                                     | 10 (340)<br>5 (170)              | T-410                                    |
| Thread count                  | Per in <sup>2</sup> (cm <sup>2</sup> )                                                                                                                                                                                                                                                                                                   | 100 (40)                         | ASTM D3775                               |
| Breaking strength             | Minimum Warp / Filling, lb/in<br>(kN/m)                                                                                                                                                                                                                                                                                                  | 80 / 50<br>(14 / 8.8)            | ASTM D5035                               |
| Stiffness                     | Average, finished cover, Gurley Unit: MD $\pm 500$<br>CD $\pm 250$                                                                                                                                                                                                                                                                       | 1500<br>750                      | T-543, Note (1)                          |
| Porosity                      | Minimum, seconds                                                                                                                                                                                                                                                                                                                         | 15                               | T-460                                    |
| Gloss (75°)                   | Average, finished cover, Gloss Units, $\pm 5.0$                                                                                                                                                                                                                                                                                          | 20.0                             | T-480                                    |
| Fade resistance               | Maximum color deviation, before and after fade testing for 168 hours, delta E (CIELAB)                                                                                                                                                                                                                                                   | 1.0                              | ASTM G155, Table X3.1, Cycle 11 Note (2) |
| Surface and coating           | Cover material shall be soft and pliable but not oily; surface shall not crack when bent sharply. The back surface shall be receptive to a water-based polyvinyl acetate emulsion adhesive used to bond the end sheet. The top surface shall withstand the lamination process. When stretched, the surface coating shall show no defects |                                  | Method C                                 |
| Abrasion                      | Cover material surface shall show no wear at 200 revolutions.                                                                                                                                                                                                                                                                            |                                  | ASTM D3884-Note (3)                      |
| Color                         | Cover material topside shall be flag blue to match established standard. (For information, the color coordinates are)                                                                                                                                                                                                                    | (L*=27.3<br>a*= 0.1<br>b*= -7.0) | ASTM D 2244                              |
| <u>AND</u><br>Color deviation | Maximum, delta E (CIELAB)                                                                                                                                                                                                                                                                                                                | 1.0                              | Note (4)                                 |

## Specifications for Property 29455-1 Flag Blue Woven Book Cover Material

|                        |                                                                                                                                                                                                                                                                                     |                        |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Finish                 | Cover material shall be uniform in appearance, free of blemishes or defects and visually identical to current QPL cover material.                                                                                                                                                   | Method A, Note (5)     |
| Size                   | Average sheet, inches (mm),<br>tolerance $\pm 1/16"$ (2 mm)<br>16-7/16<br>by 7-7/16<br>(418 x 189)                                                                                                                                                                                  | Method B               |
| Foil Stamping          | Cover material shall be able to cleanly accept foil stamping using the current qualified foil.                                                                                                                                                                                      | Method E               |
| Trim                   | Cover material shall trim with out fraying                                                                                                                                                                                                                                          | Method F               |
| Curl                   | Cover material shall lie flat on a piece of glass.                                                                                                                                                                                                                                  | Method D               |
| Ply                    | Cover material shall be single ply                                                                                                                                                                                                                                                  | Method A               |
| Grain (Warp)           | Cover material warp shall be in the long direction                                                                                                                                                                                                                                  | Method A               |
| Blocking               | Cover material shall not stick together                                                                                                                                                                                                                                             | ASTM D6116-Note (6)    |
| <b><u>PROPERTY</u></b> | <b><u>FUNCTIONAL TEST REQUIREMENTS (PHASE 2)</u></b>                                                                                                                                                                                                                                | <b><u>METHOD</u></b>   |
| Functional Test        | A Phase 2 test shall be performed for the cover material to evaluate performance on the GPO bindery equipment using a measure of production performance vs. cover material production defects.<br>Sample Quantity = 9000 sheets trimmed to size requirements                        | Method G               |
| Stiffness              | Cover material shall have appropriate stiffness to feed properly on the automatic binding equipment.                                                                                                                                                                                | Method G               |
| Trim                   | Cover material shall not fray when cut to size or trimmed with a die cutter.                                                                                                                                                                                                        | Method G               |
| Foil Stamping          | Cover material shall accept foil stamping from the bindery production equipment using current stamping foil.                                                                                                                                                                        | Method G               |
| Durability Analysis    | Test Cover in book format will be evaluated for the ISO method 9.2 Physical Durability Requirements (Cover Only) using the ISO method listed. The Analysis sequences to be evaluated are Storage, Thermal Shock, Back Pocket, Dynamic Bend, Torsion and Sheet Binding (Cover Only). | ISO18745-1<br>(Note 7) |

### Testing and References

Testing shall be conducted in accordance with cited methods. ASTM methods are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428 or through the website: <http://www.astm.org/>. Test methods designated T-XXX or TIS may be obtained from TAPPI 15 Technology Parkway S, Norcross, GA 30092 or at the website: <http://www.tappi.org/>

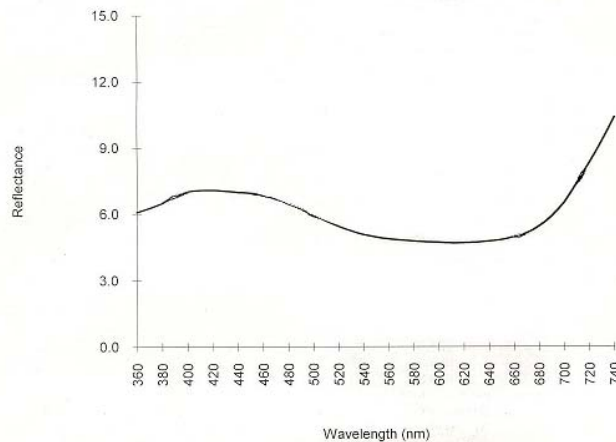
Note (1): TAPPI, T- 543 Gurley Stiffness method using a 2.5" x 2" (length x width) cover material sample with a 25 gram weight at 4".

Note (2): Test system uses a Xenon air cooled lamp at 765 W/m<sup>2</sup>/nm for 168 hours.

Note (3): Use 500-gram counter weights and Calibrase CS-10 mild green abrasion wheels. Run four samples, each to 200 revolutions. Compare samples to established standard for the cover material. Verify if coating is uniform to baseline by single beam Fourier transform infrared (FT-IR) spectroscopy.

## Specifications for Property 29455-1 Flag Blue Woven Book Cover Material

Note (4): Color testing conditions and metrics are as follows: CIELAB color space, Illuminant D65, 10° observer and specular component in. The color curve is provided for information only.



Note (5): A match to the current embossing pattern shall not be required for Phase 1 laboratory testing. All cover material for Phase 2 functional testing shall be required to match the current embossing pattern prior to beginning Phase 2 testing.

Note (6): Use an 11-pound (5-kg) weight, place 4 samples (front to front, back to front and back to back) between blotting boards and evaluate for blocking after 24 hours in the temperature and humidity conditions states.

Note (7): The physical evaluation will be performed after each stress method for Phase 2 testing only. No chip analysis will be performed in Phase 2. The cover physical evaluation criteria are:

- No damage is visible to the sample book spine post durability analysis.
- Opening the sample book to any page does not incur any additional damage to the Cover Cloth or Cloth spine.
- At least 50% of the Hot Stamp shall be intact post stress method.

**Method A:** Visually assess the composition, weave, finish and ply against the established standard. Machine Direction (MD or Warp) thread shall be perpendicular to Cross Direction (CD or Weft) thread. Report as **OK** or **Unacceptable**

**Method B:** Use an appropriate scaled measuring implement. Report results to the nearest millimeter (1/16"). Report as **Equal** or **Not equal**.

**Method C:** Personalization: The material shall pass through the State Department personalization equipment with no damage to the coating and withstand temperature up to 177°C (350°F) for a period of 45 seconds. Scratches or marks on the surface of the cover material resulting from the personalization process shall constitute failure of the test. Report as **OK** or **Unacceptable**.

Adhesion of coating to the base stock: The coating of a 6 by 6-inch (150 by 150-mm) sample cut 45 degrees to the warp or filling direction when clamped between 1 by 2-inch jaws under a load of 30 pounds (13.5 kg) for 30 seconds shall show no cracks, breaks, or pinholes. Report as **OK** or **Unacceptable**.

**Specifications for Property 29455-1  
Flag Blue Woven Book Cover Material**

**Method D:** Cover material shall be evaluated as it rests on a pane of glass in a temperature and humidity controlled room using the conditions listed under the general section as well as the size requirements. Cover material shall be acclimated for 24 hours prior to the start of evaluation. Cover material shall sit on the glass for 24 hours before evaluation is conducted. Total time prior to evaluation will be 48 hours. Cover material will be acceptable if there are no obvious variations of the edge to glass and no noticeable curl problems with the sample sheets. Report as **OK** or **Unacceptable**

**Method E:** Stamping will be performed using a sample pamphlet stamp. Lab test will be conducted using bindery stamping press and control foil against a standard sample of cover material and foil. Three samples will be prepared and compared to the current cover material. Test samples shall not show flaking and cover material coating will accept foil stamp cleanly. Foil shall not flake after 200 revolutions (as listed in the abrasion requirement). Report as **OK** or **Unacceptable**.

**Method F:** A stack of 25 sample sheets shall be cut using a trimming/cutting machine. The cover material shall not fray when trimmed. The cover material coating shall not be distorted nor shall the test sheets block. A sample is acceptable if the above criteria are met when comparing to a current QPL sample. Report as **OK** or **Unacceptable**.

**Method G:** For a new cover material to be acceptable for inclusion on the QPL, the test cover material must perform equal to the current QPL cover material. The Phase 2 will be conducted using 9000 sheets trimmed to size requirements. The cover material will be tested only after a successful completion of Phase 1. During the test, cover material will be evaluated for defects of general appearance before and after production, book spine integrity stiffness, general feeding ability, appearance of stamp after stamping, trimming/die cutting, as well as all laboratory analyses. Report as **OK** or **Unacceptable**.

**Qualified Products**

All products shall conform to the above specifications. Successful completion of both phases is required in order to be added to the QPL. The two phases are 1) laboratory testing of samples and 2) functional testing of cover material plus laboratory analysis. GPO shall notify sample submitter of test results and testing progress. In order for a product to be added to the QPL, the product shall meet all specification requirements for qualification.

Awards will be predicated on the use of a product listed below or on a product, which prior to the time set for opening of bids, has been tested and approved. The Contractor shall notify the GPO if there are changes to the production processes, manufacturing equipment, or vendors of raw materials.

The current Flag Blue Woven Book Cover Material (29455-1) on the QPL:

**Holliston LLC, H type, No. 48760 (819848)**

**Holliston LLC, T type, No. 48760 (820836)**

**Specifications for Property 29455-1  
Flag Blue Woven Book Cover Material**

*Sample Requirement*

All solicitations require approval of the contracting officer prior to shipping. Contact information is listed below.

*Acquisition Services*

*Chief, General and Paper Procurement  
(202) 512-2022*

Bidder shall submit 100 sheets for Phase 1 laboratory testing that are representative of the process in the specified size for testing and evaluation. When approved for Phase 2 functional testing, bidder shall submit 9,000 sheets trimmed to Size requirements. The samples shall be submitted with an original signed and dated cover document with the following information:

(A) Solicitation number, (B) Marked as **QPL samples**, (C) Brand name and specific product identification number and (D) Product data sheet showing the typical properties of the product.

For qualification testing/evaluation, send samples to the address listed below:

*U.S. Government Printing Office  
Attn: Chief, Testing and Technical Services  
44 H Street, NW  
Washington, DC 20401*

*Packaging of Approved Product*

Product shall be supplied as sheets on a pallet. The sheets on the bottom of the pallet shall be protected from damage caused by the boards or nails in the boards. The sheets shall be completely and securely wrapped to protect from moisture or other environmental influences. Wrapping material shall be heavy weight Kraft paper, laminated paper, or heavy corrugated paper. The cover material sheets shall be flush to the edge of the skid with no overhang to avoid damage to the sheets.

The pallets shall be banded 4 ways. The bands shall leave no crimp marks on the sheets or other damage that could adversely affect the quality of the finished pamphlets. The total weight of the pallets shall not exceed 2,500 pounds (1,200 kg). The pallets shall be made from solid pieces of wood; not from pieces of wood nailed together.

Each pallet shall have 10 lifts or layers; each lift containing 3,000 sheets; each 3,000-sheet lift consisting of 10 bundles of 300 sheets per bundle.

## Specifications for Property 27533-6 Maroon Woven Book Cover Material

### General Requirements

Suitable for use as a cover material for travel documents able to accept heat stamping of imitation gold foil; running on the Government Publishing Office (GPO) automatic binding equipment. Stock will be used in an air-conditioned production area maintained at  $24 \pm 3$  °C and  $45 \pm 10$  % relative humidity. Stock shall remain stable and usable throughout the ambient conditions listed.

All submissions will be evaluated using a 2 phase system. Each phase must be passed in order to place a cover material on the Qualified Products List (QPL). All materials will require Phase 1 analysis at least once a year or more often if deemed necessary to remain on the QPL.

### Specific Requirements:

| <u>PROPERTY</u>               | <u>LABORATORY REQUIREMENT</u>                                                                                                                                                                                                                                                                                                            |                                 | <u>METHOD</u>                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------|
| Composition                   | Cover material shall be 100% cotton fabric impregnated with pyroxylin, acrylic, polyurethane, or other non-migratory resin that accepts pressure stamp easily and is uniform in coating composition.                                                                                                                                     |                                 | Manufacturer's Data / Method A           |
| Thickness                     | Average, inch ( $\pm 10\%$ )<br>(mm)                                                                                                                                                                                                                                                                                                     | 0.014<br>(0.35)                 | ASTM D1777                               |
| Weave                         | Drill                                                                                                                                                                                                                                                                                                                                    | 2 / 1                           | Method A                                 |
| Weight                        | Average finished cover, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$<br>Minimum base cloth, oz/yd <sup>2</sup> (g/m <sup>2</sup> ) $\pm 10\%$                                                                                                                                                                                       | 10 (340)<br>5 (170)             | T-410                                    |
| Thread count                  | Per in <sup>2</sup> (cm <sup>2</sup> )                                                                                                                                                                                                                                                                                                   | 100 (40)                        | ASTM D3775                               |
| Breaking strength             | Minimum Warp / Filling, lb/in<br>(kN/m)                                                                                                                                                                                                                                                                                                  | 80 / 50<br>(14 / 8.8)           | ASTM D5035                               |
| Stiffness                     | Average, finished cover, Gurley Unit: MD $\pm 500$<br>CD $\pm 250$                                                                                                                                                                                                                                                                       | 1500<br>750                     | T-543, Note (1)                          |
| Porosity                      | Minimum, seconds                                                                                                                                                                                                                                                                                                                         | 15                              | T-460                                    |
| Gloss (75°)                   | Average, finished cover, Gloss Units, $\pm 5.0$                                                                                                                                                                                                                                                                                          | 20.0                            | T-480                                    |
| Fade resistance               | Maximum color deviation after fade testing for 168 hours, delta E (CIELAB)                                                                                                                                                                                                                                                               | 1.0                             | ASTM G155, Table X3.1, Cycle 11 Note (2) |
| Surface and coating           | Cover material shall be soft and pliable but not oily; surface shall not crack when bent sharply. The back surface shall be receptive to a water-based polyvinyl acetate emulsion adhesive used to bond the end sheet. The top surface shall withstand the lamination process. When stretched, the surface coating shall show no defects |                                 | Method C                                 |
| Abrasion                      | Cover material surface shall show no wear at 200 revolutions.                                                                                                                                                                                                                                                                            |                                 | ASTM D3884-Note (3)                      |
| Color                         | Cover material topside shall be maroon to match established standard. <i>(For information, the color coordinates are)</i>                                                                                                                                                                                                                | (L*=30.1<br>a*= 7.3<br>b*= 1.0) | ASTM D 2244                              |
| <u>AND</u><br>Color deviation | Maximum, delta E (CIELAB)                                                                                                                                                                                                                                                                                                                | 1.0                             | Note (4)                                 |

## Specifications for Property 27533-6 Maroon Woven Book Cover Material

|                        |                                                                                                                                                                                                                                                                                     |                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Finish                 | Cover material shall be uniform in appearance, free of blemishes or defects and visually identical to current QPL cover material.                                                                                                                                                   | Method A, Note (5)                              |
| Size                   | Average sheet, inches (mm),<br>tolerance $\pm 1/16$ " (2 mm)                                                                                                                                                                                                                        | 16-7/16<br>by 7-7/16<br>(418 x 189)<br>Method B |
| Foil Stamping          | Cover material shall be able to cleanly accept foil stamping using the current qualified foil.                                                                                                                                                                                      | Method E                                        |
| Trim                   | Cover material shall trim with out fraying                                                                                                                                                                                                                                          | Method F                                        |
| Curl                   | Cover material shall lie flat on a piece of glass.                                                                                                                                                                                                                                  | Method D                                        |
| Ply                    | Cover material shall be single ply                                                                                                                                                                                                                                                  | Method A                                        |
| Grain (Warp)           | Cover material warp shall be in the long direction                                                                                                                                                                                                                                  | Method A                                        |
| Blocking               | Cover material shall not stick together                                                                                                                                                                                                                                             | ASTM D6116-Note (6)                             |
| <b><u>PROPERTY</u></b> | <b><u>FUNCTIONAL TEST REQUIREMENTS (PHASE 2)</u></b>                                                                                                                                                                                                                                | <b><u>METHOD</u></b>                            |
| Functional Test        | A Phase 2 test shall be performed for the cover material to evaluate performance on the GPO bindery equipment using a measure of production performance vs. cover material production defects.<br>Sample Quantity = 9000 sheets trimmed to size requirements                        | Method G                                        |
| Stiffness              | Cover material shall have appropriate stiffness to feed properly on the automatic binding equipment.                                                                                                                                                                                | Method G                                        |
| Trim                   | Cover material shall not fray when cut to size or trimmed with a die cutter.                                                                                                                                                                                                        | Method G                                        |
| Foil Stamping          | Cover material shall accept foil stamping from the bindery production equipment using current stamping foil.                                                                                                                                                                        | Method G                                        |
| Durability Analysis    | Test Cover in book format will be evaluated for the ISO method 9.2 Physical Durability Requirements (Cover Only) using the ISO method listed. The Analysis sequences to be evaluated are Storage, Thermal Shock, Back Pocket, Dynamic Bend, Torsion and Sheet Binding (Cover Only). | ISO18745-1<br>(Note 7)                          |

### Testing and References

Testing shall be conducted in accordance with cited methods. ASTM methods are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428 or through the website: <http://www.astm.org/>. Test methods designated T-XXX or TIS may be obtained from TAPPI 15 Technology Parkway S, Norcross, GA 30092 or at the website: <http://www.tappi.org/>

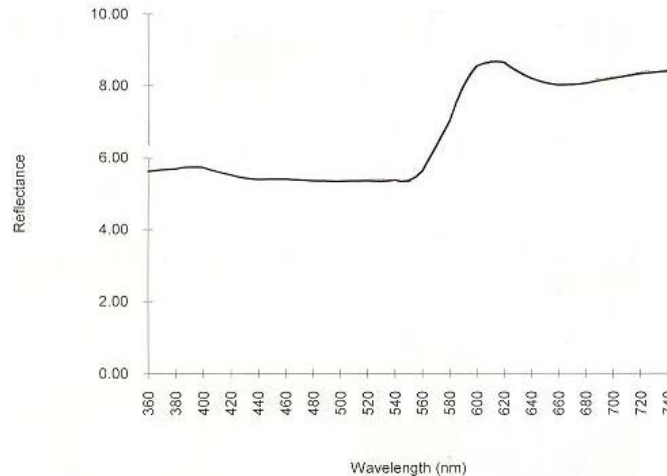
Note (1): TAPPI, T- 543 Gurley Stiffness method using a 2.5" x 2" (length x width) cover material sample with a 25 gram weight at 4".

Note (2): Test system uses a Xenon air cooled lamp at 765 W/m<sup>2</sup>/nm for 168 hours.

Note (3): Use 500-gram counter weights and Calibrase CS-10 mild green abrasion wheels. Run four samples, each to 200 revolutions. Compare samples to established standard for the cover material. Verify if coating is uniform to baseline by single beam Fourier transform infrared (FT-IR) spectroscopy.

## Specifications for Property 27533-6 Maroon Woven Book Cover Material

Note (4): Color testing conditions and metrics are as follows: CIELAB color space, Illuminant D65, 10° observer and specular component in. The color curve is provided for information only.



Note (5): A match to the current embossing pattern shall not be required for Phase 1 laboratory testing. All cover material for Phase 2 functional testing shall be required to match the current embossing pattern prior to beginning Phase 2 testing.

Note (6): Use an 11-pound (5-kg) weight, place 4 samples (front to front, back to front and back to back) between blotting boards and evaluate for blocking after 24 hours in the temperature and humidity conditions states.

Note (7): The physical evaluation will be performed after each stress method for Phase 2 testing only. No chip analysis will be performed in Phase 2. The cover physical evaluation criteria are:

- No damage is visible to the sample book spine post durability analysis.
- Opening the sample book to any page does not incur any additional damage to the Cover Cloth or Cloth spine.
- At least 50% of the Hot Stamp shall be intact post stress method.

**Method A:** Visually assess the composition, weave, finish and ply against the established standard. Machine Direction (MD or Warp) thread shall be perpendicular to Cross Direction (CD or Weft) thread. Report as **OK** or **Unacceptable**

**Method B:** Use an appropriate scaled measuring implement. Report results to the nearest millimeter (1/16"). Report as **Equal** or **Not equal**.

**Method C:** Personalization: The material shall pass through the State Department personalization equipment with no damage to the coating and withstand temperature up to 177°C (350°F) for a period of 45 seconds. Scratches or marks on the surface of the cover material resulting from the personalization process shall constitute failure of the test. Report as **OK** or **Unacceptable**.

Adhesion of coating to the base stock: The coating of a 6 by 6-inch (150 by 150-mm) sample cut 45 degrees to the warp or filling direction when clamped between 1 by 2-inch jaws under a load of 30 pounds (13.5 kg) for 30 seconds shall show no cracks, breaks, or pinholes. Report as **OK** or **Unacceptable**.

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Maroon Woven Book Cover Material**

**Method D:** Cover material shall be evaluated as it rests on a pane of glass in a temperature and humidity controlled room using the conditions listed under the general section as well as the size requirements. Cover material shall be acclimated for 24 hours prior to the start of evaluation. Cover material shall sit on the glass for 24 hours before evaluation is conducted. Total time prior to evaluation will be 48 hours. Cover material will be acceptable if there are no obvious variations of the edge to glass and no noticeable curl problems with the sample sheets. Report as **OK** or **Unacceptable**

**Method E:** Stamping will be performed using a sample pamphlet stamp. Lab test will be conducted using bindery stamping press and control foil against a standard sample of cover material and foil. Three samples will be prepared and compared to the current cover material. Test samples shall not show flaking and cover material coating will accept foil stamp cleanly. Foil shall not flake after 200 revolutions (as listed in the abrasion requirement). Report as **OK** or **Unacceptable**.

**Method F:** A stack of 25 sample sheets shall be cut using a trimming/cutting machine. The cover material shall not fray when trimmed. The cover material coating shall not be distorted nor shall the test sheets block. A sample is acceptable if the above criteria are met when comparing to a current QPL sample. Report as **OK** or **Unacceptable**.

**Method G:** For a new cover material to be acceptable for inclusion on the QPL, the test cover material must perform equal to the current QPL cover material. The Phase 2 will be conducted using 9000 sheets trimmed to size requirements. The cover material will be tested only after a successful completion of Phase 1. During the test, cover material will be evaluated for defects of general appearance before and after production, book spine integrity, stiffness, general feeding ability, appearance of stamp after stamping, trimming/die cutting, as well as all laboratory analyses. Report as **OK** or **Unacceptable**.

**Qualified Products**

All products shall conform to the above specifications. Successful completion of both phases is required in order to be added to the QPL. The two phases are 1) laboratory testing of samples and 2) functional testing of cover material plus laboratory analysis. GPO shall notify sample submitter of test results and testing progress. In order for a product to be added to the QPL, the product shall meet all specification requirements for qualification.

Awards will be predicated on the use of a product listed below or on a product, which prior to the time set for opening of bids, has been tested and approved. The Contractor shall notify the GPO if there are changes to the production processes, manufacturing equipment, or vendors of raw materials.

The current Maroon Woven Book Cover Material (27533-6) on the QPL:

**Holliston LLC, H type, No. 69906 (819937)**

**Holliston LLC, T type, No. 69906 (820784)**

**Specifications for Property 27533-6  
Maroon Woven Book Cover Material**

*Sample Requirement*

All solicitations require approval of the contracting officer prior to shipping. Contact information is listed below.

*Acquisition Services*

*Chief, General and Paper Procurement*

*(202) 512-2022*

Bidder shall submit 100 sheets for Phase 1 laboratory testing that are representative of the process in the specified size for testing and evaluation. When approved for Phase 2 functional testing, bidder shall submit 9,000 sheets trimmed to Size requirements. The samples shall be submitted with an original signed and dated cover document with the following information:

(A) Solicitation number, (B) Marked as **QPL samples**, (C) Brand name and specific product identification number and (D) Product data sheet showing the typical properties of the product.

For qualification testing/evaluation, send samples to the address listed below:

*U.S. Government Printing Office*

*Attn: Chief, Testing and Technical Services*

*44 H Street, NW*

*Washington, DC 20401*

*Packaging of Approved Product*

Product shall be supplied as sheets on a pallet. The sheets on the bottom of the pallet shall be protected from damage caused by the boards or nails in the boards. The sheets shall be completely and securely wrapped to protect from moisture or other environmental influences. Wrapping material shall be heavy weight Kraft paper, laminated paper, or heavy corrugated paper. The cover sheets shall be flush to the edge of the skid with no overhang to avoid damage to the sheets.

The pallets shall be banded 4 ways. The bands shall leave no crimp marks on the sheets or other damage that could adversely affect the quality of the finished pamphlets. The total weight of the pallets shall not exceed 2,500 pounds (1,200 kg). The pallets shall be made from solid pieces of wood; not from pieces of wood nailed together.

Each pallet shall have 10 lifts or layers; each lift containing 3,000 sheets; each 3,000-sheet lift consisting of 10 bundles of 300 sheets per bundle.