



Resistance to Blocking

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The purpose of this procedure is used to determine the resistance of blocking under the combined influence of heat and pressure. Blocking occurs when surfaces that have been in mutual contact affect each other enough to cause permanent surface changes after specimens have been separated.

1.2 Applicability. This test is primarily intended for testing blocking resistance of supported and unsupported plastic roll goods and finished leather.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3221

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 Mechanical Convection Oven.

3.2.2 Six (6) 900 g $\pm$ 25 g masses 50 mm $\pm$ 3 mm $\times$ 50 mm $\pm$ 3 mm.

3.2.3 Six (6) 3600 g $\pm$ 25 g masses 50 mm $\pm$ 3 mm $\times$ 50 mm $\pm$ 3 mm.

3.2.4 Twelve (12) square isolators 50 mm $\pm$ 3 mm $\times$ 50 mm $\pm$ 3 mm weighing 20 g $\pm$ 5 g. The thickness of the glass should be about 3 mm. Any thickness that allows for the square glass isolator to be the specified dimension (length $\times$ width) and weight is acceptable.

3.3 Test Vehicle/Test Piece. Not applicable.

3.4 Test Time.

Calendar time: 2 days

Test hours: 5 hours

Coordination hours: 1 day

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Personnel trained in accordance with the laboratory accreditation and Standard Operating Procedure requirements.

4 Procedure

Summary of Test Method. Two (2) surfaces of interest of the test specimens are placed in mutual contact with each other. The specimens are then exposed to heat while under pressure. After the test has been completed and the specimens are placed in conditioning for a minimum of 24 h without weight, they are slowly separated by hand and examined for evidence of blocking.

4.1 Preparation.

4.1.1 Test Sample Preparation. Cut the required number of specimens. Refer to the material specification to determine how many specimens to cut. Each specimen must be $50\text{ mm} \pm 3\text{ mm} \times 50\text{ mm} \pm 3\text{ mm}$. Cut and condition test specimens as required by the material specification. Ensure that the edges of the test specimens are clean and free of debris from cutting. Condition the specimens for a minimum of 24 h to the requirements of GMW3221 Code A.

4.2 Conditions. Not applicable.

4.2.1 Environmental Conditions. Not applicable.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 Test Procedure.

4.3.1.1 Preheat all masses that are to be used for testing for a minimum of 4 h at $80\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ in a mechanical convection oven.

4.3.1.2 Place a glass isolator on the oven rack to provide a flat surface to support the bottom specimen.

4.3.1.3 Place one (1) test specimen on the isolator with the appearance side up. Put a second test specimen over the first specimen so that the side of interest is in mutual surface contact with the first specimen.

4.3.1.4 Place one (1) glass isolator on top of the two (2) specimens. The isolators will form a sandwich around the test specimens.

4.3.1.5 Place one (1) mass (see material specification to determine which mass to use) on the sandwich. All edges should be aligned. Occasionally, there may be a problem with the mass sliding off of the glass isolator during the test. A piece of sandpaper $50\text{ mm} \pm 3\text{ mm} \times 50\text{ mm} \pm 3\text{ mm}$ should be inserted between the mass and the glass isolator. Any grit sandpaper that prevents slippage is acceptable.

Note: The purpose of the isolator on the bottom is to provide a flat surface to support the specimen on the oven rack. The purpose of the isolator on the top is to insulate the specimen from any contact with the mass.

4.3.1.6 Expose the specimens in a mechanical convection oven at $80\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for 30 minutes $\pm$ 5 minutes.

4.3.1.7 At the end of the exposure, remove the specimens from the oven and place them in a conditioned environment (without the mass) for a minimum of 24 h. The conditioned environment should be in accordance with GMW3221 Code A.

4.3.1.8 Slowly separate the specimens by hand. Lift one corner and pull upward slowly

5 Data

5.1 Calculations. Not applicable.

5.2 Interpretation of Results. Not applicable.

5.3 Test Documentation.

5.3.1 Evaluation and Rating.

5.3.1.1 Refer to the material specification to evaluate the specimen.