



Designation: D6659 – 16 (Reapproved 2021)

## Standard Practice for Sampling and Preparation of Wet Blue and Wet White for Physical and Chemical Tests<sup>1</sup>

This standard is issued under the fixed designation D6659; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This practice covers the sampling and preparation of Wet Blue and Wet White for physical and chemical tests. The product is grouped into lots that are randomly sampled in such a manner as to produce a representative sample of the lot. This sample may be used to determine compliance of the lot with applicable specification requirements, and on the basis of results, the lot may be accepted or rejected in its entirety.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

**D6658 Test Method for Volatile Matter (Moisture) of Wet Blue by Oven Drying**

### 3. Terminology

3.1 *Definitions:*

3.1.1 *lot (or batch), n*—units of products from a single type, grade, class, size, and composition, manufactured under essentially the same conditions and time.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.02 on Wet Blue.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.1.1.1 *Discussion*—Wet Blue and Wet White in formed lots should be produced from: (1) Units of product of similar size and type. (2) A single product method. (3) Sequential production batches.

3.1.1.2 *Discussion*—In addition to 3.1.1.1, Wet Blue in formed lots should be produced from Chromium tanning material obtained from the same producer (or functionally equivalent).

3.1.2 *unit, n*—a piece of Wet Blue or Wet White in the form in which it is purchased, such as a single hide, skin, or any part thereof.

### 4. Significance and Use

4.1 The sampling procedures described in this practice have been designed to ensure random sampling of Wet Blue and Wet White for physical and chemical tests. Wet Blue and Wet White are natural products and as such are subject to extensive variability. The physical and chemical properties vary considerably depending on location on the hide, side, or skin from which the test sample is taken. Random sampling of specimens from a predefined location and orientation minimizes test bias and variability. This practice defines these parameters.

### 5. Conditioning

5.1 Unless otherwise specified in the applicable test method, specification, or procurement document, samples shall be tempered to the ambient laboratory conditions prior to preparation of testing.

### 6. Sampling Procedure

6.1 Prior to sampling, identify the product properly as a lot or batch.

6.2 Select units from locations scattered throughout the lot, not from the same portion of the lot, such as a single pallet, carton, layer, etc. Take without regard to quality.

6.2.1 The number of samples taken depends on the reliability of the test results, the deviation of the properties, and the error of the testing procedure. The number of samples taken may be at the discretion of the user and the related test method and should also be recorded on the test report. It is recommended that 12 samples be taken for every 50,000 square feet of hide or skin. These 12 shall be considered a lot, or batch.



NOTE 1—By reason of the high moisture content of Wet Blue and Wet White, samples should be taken after the wringing operation and immediately sealed in airtight plastic wrap. Store in a cool place until used.

6.3 The standard location for sampling Wet Blue and Wet White is the kidney area (designated as TEST AREA “a” in Fig. 1). Sampling in the belly or shoulder area is only applicable if that is the end product being sold or purchased:

6.3.1 *Skins*—Cut the test piece to the size and shape required for the tests to be made, with one edge parallel to and 1 in. (25.4 mm) from the backbone line, beginning 3 in. (76 mm) from the root of the tail. Pieces shall be cut from only one side of the backbone of each skin. The test area for skins corresponds to area a for cattlehides of Fig. 1.

6.3.2 *Cattlehides*—The location and size of cutting shall be as follows:

6.3.2.1 *Hides, Sides, Crops, Backs, and Bends*—Cut the test piece to the size and shape required for the test to be made, with one edge parallel to and 2 in. (51 mm) from the backbone line beginning 5 in. (127 mm) from the root of the tail. In most instances, test piece “a” may be cut 8 in. (203 mm) by 8 in. (203 mm). Sample double bends, belting butts, and hides on only one side of the backbone (see Fig. 1, test area “a”).

6.3.2.2 *Bellies*—Cut out the test piece, X, 5 in. (127 mm) wide and 7 in. (178 mm) long with one long edge parallel to and 1 in. (25.4 mm) from the belly line, DF, in Fig. 1. Locate the test cutting at the middle of the piece midway between points D and F.

6.3.2.3 *Double Shoulders*—Cut out the test piece, Y, 5 by 7 in. (127 by 178 mm) with a long edge parallel to and 1 in. (25.4 mm) from the shoulder line, BE. Locate the test cutting at the middle of the piece between B and E.

6.3.2.4 Cut out each test specimen with its long dimension perpendicular to the backbone line, unless otherwise specified in the corresponding test method.

6.3.2.5 When several specimens are required from each piece, cut them out in the following order beginning at the end nearest the tail: tensile strength and elongation (dumbbell),

breaking strength (grab), bursting strength, stitch tear, shrinkage temperature, tongue tear, stiffness.

6.3.2.6 When cutting specimens for physical tests, areas selected must be free from visual defects such as cuts, scratches, and other obvious flaws.

## 7. Sampling Preparation

7.1 Time is crucial in the preparation of Wet Blue and Wet White for chemical analysis. The following dicing procedure should be done in 2 min. or less for each individual sample to prevent significant moisture loss.

7.1.1 Samples must be cut on a non-porous, non-absorbing hard surface using a clean sharp cutting tool, preferably with a new razor or scalpel blade. Avoid excess pressure on the sample, which could force moisture out of the Wet Blue or Wet White.

NOTE 2—Both Method A and Method B are acceptable for the preparation of Wet Blue and Wet White for chemical tests.

7.2 *Method A*—As received in wet state, diced.

7.2.1 Samples should be cut into 3 to 5 mm squares leaving no original cut edges.

7.2.2 Immediately place diced samples into an airtight glass or plastic container. This container must be large enough to permit preparation of a composite sample by freely mixing lot samples, and yet have a minimum amount of airspace to prevent evaporation.

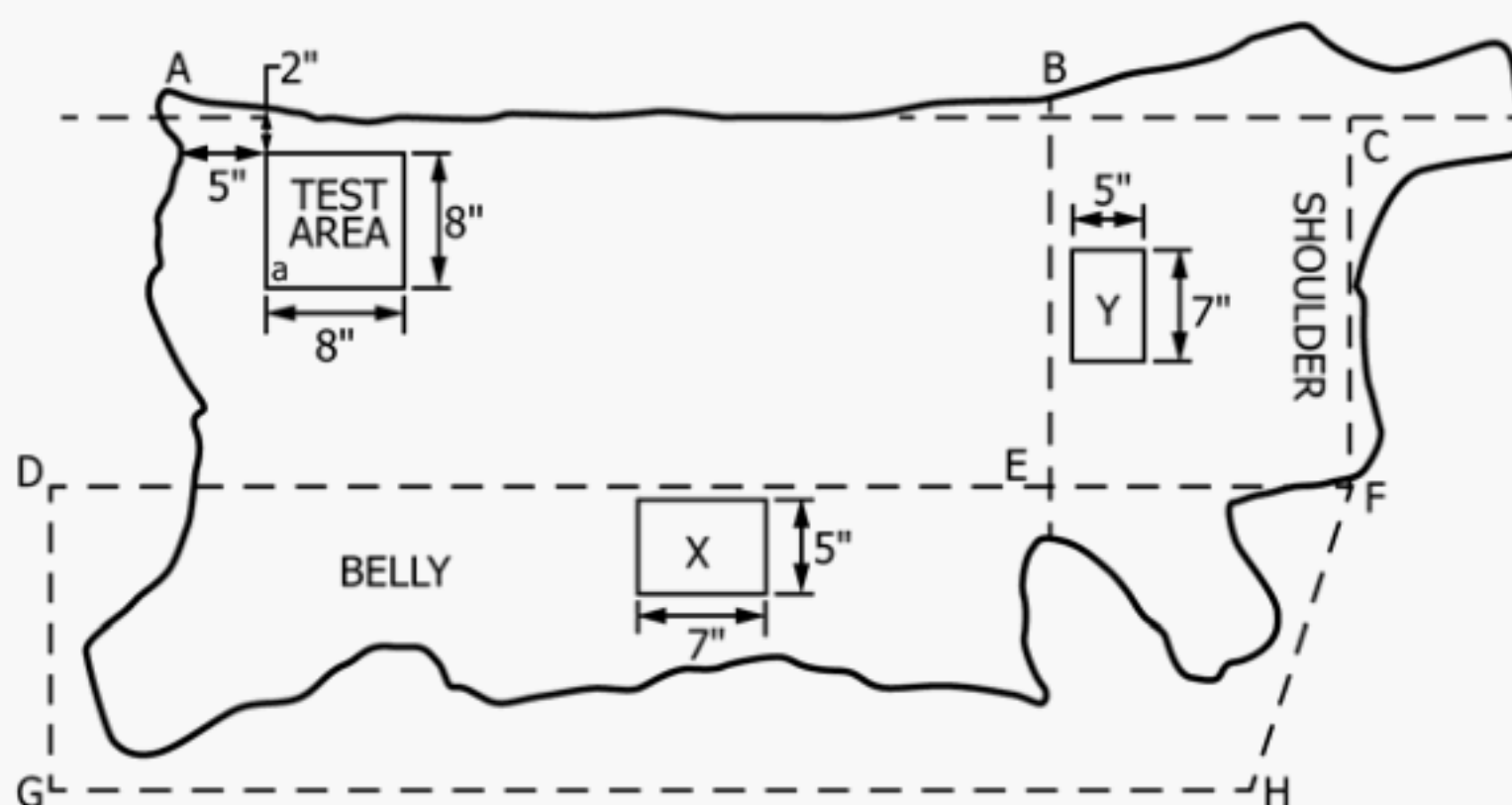
7.2.3 Store at room temperature, away from heat or direct light.

7.2.4 All chemical analyses shall be taken from the composite sample and be performed in duplicate.

7.3 *Method B*—Oven or air dried, ground.

7.3.1 Samples should be cut into approximately ½ by 2 in. (12.7 by 50.8 mm) strips, leaving not original cut edges.

NOTE 3—If total moisture will be reported for the sample, obtain representative strips and proceed immediately to Test Method D6658, step 7.1 (use pre-dried weighing containers as specified).



in.	mm	in.	mm
2	51	7	178
5	127	8	203

FIG. 1 Location of Test Area



7.3.2 Dry the remaining strips at  $125 \pm 1$  °C ( $257 \pm 1.8$  °F) for 1-4 h or air-dry the strips overnight on the counter.

7.3.3 Grind the dried strips in a cutter mill with a 4-mm diameter mesh sieve. Mix ground and sieved sample thoroughly, and store this composite sample at room temperature in a clean, dry, and airtight container, away from heat or direct light, until used for chemical analysis.

7.3.4 All chemical analyses shall be taken from the composite sample and be performed in duplicate.

## **8. Keywords**

8.1 blue stock; chemical tests; lot; physical tests; sampling; unit; Wet Blue; Wet White

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