



Standard Practice for Sewn Products Marker Data Interchange¹

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1. Scope

1.1 This practice describes a format for transferring marker data from a CAD marker software system to another or to a CAM software system.

1.2 This practice does not support curve interpolation or definitions. All curves are represented by discrete vectors and are dependent on the resolution of the CAD software.

1.3 This practice is concerned in limiting differences when processing the same data on different CAD systems.

1.4 This practice is not intended to represent the dimension relationships between pattern pieces or between pattern sizes, or the correspondence between 2D or 3D sewn product pattern piece geometries.

1.5 The file format for the marker data exchange file defined by this standard complies with the XML format.

1.5.1 The XML schema describing marker data exchange standard XML structure is presented in an ASTM adjunct.²

1.6 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*³

D6963 Terminology Relating to Sewn Products Automation

2.2 *ASTM Adjuncts:* ASTM Adjunct.²

XML Schema

3. Terminology

3.1 For all terminology related to Sewn Products Automation, see Terminology **D6963**.

¹ This practice is under the jurisdiction of ASTM Committee **D13** on Textiles and is the direct responsibility of Subcommittee **D13.66** on Sewn Product Automation.

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² Available from ASTM International Headquarters. Order Adjunct Number ADJD7331A. Original adjunct produced in 2007. Adjunct last revised in 2011.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.2 The following terms are relevant to this standard: drill hole, grainline, line, notch, style.

3.3 The following terms are new terms related to Sewn Products Automation:

3.3.1 *absolute pattern matching*, *n*—nesting specification where a nested piece match point shall have a specified position in regard to a repeat line. See **Fig. 1**.

3.3.2 *bundle*, *n*—set of nested pieces that are intended to be processed together because they are issued from the same graded style and are parts of the same end user's product.

3.3.2.1 *Discussion*—All bundle pieces are to be cut on the same material.

3.3.3 *bundle group*, *n*—set of bundles that are used to define constraints.

3.3.3.1 *Discussion*—A bundle may be part of several bundle groups for several different constraints. Example: pockets from the jacket and the trousers of a suit may have a mutual rotation constraint.

3.3.4 *constraint*, *n*—description of the behavior that one or several nested piece of the marker should follow during marker processing.

3.3.5 *efficiency*, *n*—area of the produced pieces located on the up side of the fabric, including blocking, versus area of the marker, defined by its length and its width.

3.3.5.1 *Discussion*—Pieces area inside fusing blocks is considered when calculating efficiency. Fusing blocks area is not considered.

3.3.6 *fabric category*, *n*—identifies the category to which the fabric belongs.

3.3.6.1 *Discussion*—The category allows the definition of fabric groups that will be used for pattern matching constraints definitions.

3.3.7 *fabric type*, *n*—characteristic of a pattern piece used to identify the material type the piece has to be made of.

3.3.8 *five star pattern*, *n*—motif on a plaid fabric where the center of the pattern unit cell has the same role as its four corners.

3.3.9 *flip*, *n*—transformation of a geometry that gives the symmetry of the sized piece geometry either across the X axis or across the Y axis or across both, that is equivalent to a 180 degrees rotation. See **Fig. 2**.