INTERNATIONAL STANDARD 3572

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Textiles — Weaves — Definitions of general terms and basic weaves

Textiles — Armures — Définitions des termes généraux et des armures de base

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

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It has been approved by the Member Bodies of the following countries :

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Bulgaria	Iran	South Africa, Rep. of
Chile	Ireland	Sweden
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Germany	New Zealand	U.S.S.R.
Hungary	Poland	Yugoslavia

No Member Body expressed disapproval of the document.

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Textiles — Weaves — Definitions of general terms and basic weaves

1 SCOPE AND FIELD OF APPLICATION

This International Standard gives definitions of general terms for describing weaves, and defines the three basic weaves.

2 GENERAL TERMS

2.1 woven fabric : A fabric produced by interlacing (by weaving on a loom or a weaving machine) a set of warp threads and a set of weft threads normally at right angles to each other.

2.2 warp : Threads running in the direction of the length of a fabric as produced.

NOTE — An individual warp thread is known in English as an "end".

2.3 weft; filling : Threads running in the direction of the width of a fabric as produced.

2.4 pick : A weft thread or a group of weft threads inserted in a fabric by one traverse of the picking mechanism between two consecutive beat-ups, i.e. during one cycle of weaving.

NOTE — The terms end and pick are often connected with a reference length, for example 15 picks per centimetre, 15 ends per centimetre.

2.5 face : The surface of a fabric that is intended to be seen.

NOTE — If both surfaces of a fabric are intended to be seen, either can be regarded as the face.

2.6 back : The surface of a fabric opposite to the face.

2.7 interlacing : The crossing of warp and weft threads over and under each other.

2.8 weave : The pattern of interlacing of warp and weft in a woven fabric.

NOTE — There are three basic weaves, plain, twill and sateen (see clause 3).

2.9 weave repeat : The smallest number of warp and weft threads required for the pattern of a weave.

2.10 first warp thread : The first warp thread on the left in a weave repeat.

2.11 first weft thread : The bottom weft thread in a weave repeat.

2.12 float : A length of thread between adjacent interlacings.

NOTE — The length of a float is defined by the number of warp threads over which a weft thread goes, or the number of weft threads over which a warp thread goes, as relevant.

2.13 stitch; binder; binding point : An interlacing whose purpose is :

a) to bind long floats in a single structure, or

b) to bind together different layers, or

c) to bind backing threads to the face weave in a multiple structure.

2.14 twill line : A diagonal line formed by the weave.

NOTE — The letter S or Z (as appropriate) may be used to designate the direction of the slope of the twill line.

2.15 design paper : Paper having vertical and horizontal ruled lines that are suitable for illustrating weaves and designs.

NOTE — Usually each space between vertical lines represents one warp thread, and each space between horizontal lines represents one weft thread. The design paper commonly used has equally spaced fine ruling, with heavy overruling in blocks of convenient size.

2.16 weave diagram : The representation of the interlacing of a weave on design paper.

NOTE — An end lifted over a pick is usually illustrated by inserting a symbol in a small rectangle of the design paper, i.e. such a mark indicates "warp up" and an unfilled square indicates "weft up".

2.17 weave cross-section diagram : A drawing showing the interlacing of one warp or weft thread as seen from the side of the fabric.

Examples :

NOTE – When used, the cross-section in the warp direction shall be shown on the left-hand side and the cross-section in the weft direction on the bottom of the weave diagram. Relevant warp or weft threads must be marked or numbered. The face of the fabric shall be shown on the left of the warpwise cross-section and on the top of the weftwise cross-section.

2.18 step number; move number : The number of picks by which a warp thread interlacing in a weave moves relative to the preceding warp thread.

2.19 drafting plan : A plan indicating the order in which warp yarns are drawn through the eyes of the healds on the heald shafts.

2.20 lifting plan : A plan indicating the order of lifting heald shafts on successive picks in order to weave a pattern.

3 BASIC WEAVES

There are three basic weaves, namely : plain weave, twill weave, and sateen weave, defined as follows.

3.1 plain weave : A weave in which each weft thread passes alternately over and under a warp thread, and each warp thread passes alternately over and under a weft thread.

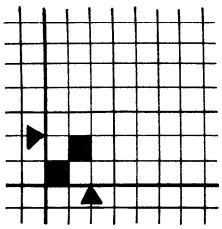

FIGURE 1 – **Plain weave**

3.2 twill weave : A weave having a weave repeat of at least three weft threads and which produces twill lines.

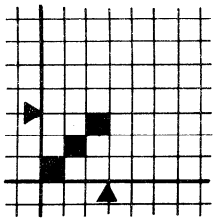

FIGURE 2a – **Weft-faced "Z" twill weave**

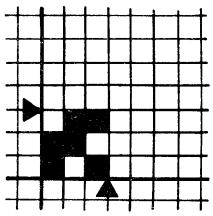

FIGURE 2b – **Warp-faced "Z" twill weave**

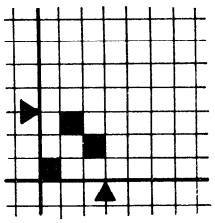

FIGURE 3a – **Weft-faced "S" twill weave**

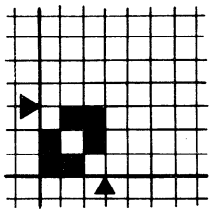

FIGURE 3b – **Warp-faced "S" twill weave**

3.3 sateen weave : A weave having a weave repeat of at least five weft threads and five warp threads in which each end interlaces once only and the step number is greater than one. It should be noted that the number of threads in a weave repeat and the step number may not have a common divisor.

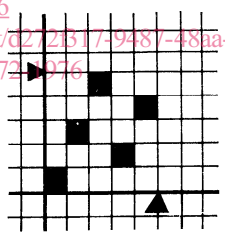

FIGURE 4a – **Sateen weave (weft faced)**

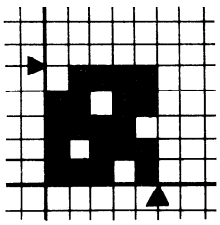

FIGURE 4b – **Satin weave (warp faced)**

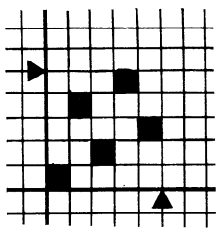

FIGURE 5a – **Sateen weave (weft faced)**

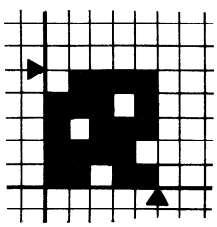

FIGURE 5b – **Satin weave (warp faced)**