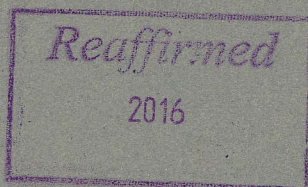


SRI LANKA STANDARD 431:1978

UDC 677.06.001.3:677.024



**DEFINITIONS OF GENERAL TERMS AND
DESCRIPTIONS OF BASIC WEAVES**

BUREAU OF CEYLON STANDARDS

DEFINITIONS OF GENERAL TERMS
AND DESCRIPTIONS OF BASIC WEAVES

SLS 431:1978

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SRI LANKA STANDARD
ON DEFINITIONS OF GENERAL TERMS
AND DESCRIPTIONS OF BASIC WEAVES

FOREWORD

This Sri Lanka Standard has been prepared by the Drafting Committee of the Bureau on Classification and Terminology. It was approved by the Textiles Divisional Committee of the Bureau of Ceylon Standards and was authorized for adoption and publication by the Council of the Bureau on 1978-03-14.

In the preparation of this standard, assistance derived from publications of the International Organization for Standardization and the Textile Institute is gratefully acknowledged.

1 SCOPE

This standard gives definitions of general terms for describing weaves and defines the basic weaves that are used presently in the manufacture of fabrics.

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 at right angles to each other.

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

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

2.4 **pick**: The weft thread or a group of weft threads inserted in a fabric between two consecutive beat-ups.

NOTES

1 The term is often connected with a reference length, for example: 15 picks per 10 mm.

2 Where a pick consists of more than one thread this should be stated, as for example: 14 picks per 10 mm, 2 threads together.

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

NOTE - If both surfaces 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.

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): 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: A 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 over ruling in blocks of convenient size.

2.16 weave diagram: The interlacing of a weave as shown on design paper.

NOTE - *The end lifted over the pick is usually illustrated by inserting a symbol in a small rectangle of the design paper, i.e. such a mark indicates "warp 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, for example:



NOTE - *When used, the cross section in the warp direction shall be as 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.*

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

2.19 draft 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

3.1 plain weave: A simple weave in which each yarn of the weft passes alternately over and under a yarn of the warp, and each yarn of the warp passes alternately over and under a yarn of the weft.

3.2 warp cord: An effect obtained by using a warp cover approximately twice the weft cover, the warp being made to bend around the weft, which remains substantially straight. This leads to the formation of rounded warp-faced cords that run across the cloth. The prominence of the cords can be accentuated by

- a) using a coarser weft than warp; and
- b) weaving two or more picks as one.

3.3 weft cord: An effect produced by the use of a weft cover approximately twice the warp cover, the weft being made to bend around the warp, which remains substantially straight. This leads to the formation of rounded weft faced cords running down the cloth. The prominence of the cords can be accentuated by

- a) using a coarser warp than weft; and
- b) weaving two or more ends as one.

3.4 hopsack (matt): A modification of plain weave in which two or more ends and picks weave as one, or a fabric made in such a weave. The basic hopsack weaves may be modified in various ways, for example: by introducing additional interlacings to give a firmer cloth (stitched hopsack), or by arranging small square blocks of figures to form diagonal lines in the fabric (twilled hopsack).

3.5 twill: A weave that repeats on three or more ends and picks and produces diagonal lines on the face of the cloth.

NOTE - The angle of the diagonals in the cloth may be varied in two ways.

a) By using a construction which is not square. The twill angle in the fabric will be steeper than 45° if the ends per inch exceed the picks per inch.

b) Conversely if picks exceed the ends the angle of twill in the fabric will be less steep than 45° .

3.5.1 broken twill weave: A twill weave in which the twill lines are not continuous.

3.5.2 herringbone twill weave: A combination of the twill weaves in which the direction of twill is reversed periodically across the width giving a zig-zag effect (usually by drafting) and producing stripes resembling herringbones.

3.6 satin: A warp faced weave in which the binding places are arranged with a view to producing a smooth cloth surface, free from twill.

NOTE - Since there is confusion in the use of this term, it is safer to qualify it by warp .

3.6.1 regular satin weave: A satin weave in which the step number is constant throughout the weave repeat.

3.6.2 irregular satin weave: A satin weave in which the step number is not constant throughout the weave repeat.

3.7 sateen: A weft faced weave in which the binding places are arranged with a view to producing a smooth cloth surface, free from twill.

NOTE - Since there is confusion in the use of this term, it is safer to qualify it by weft.

3.7.1 regular sateen weave: A sateen weave in which the step number is constant throughout the weave repeat.

3.7.2 irregular sateen weave: A sateen weave in which the step number is not constant throughout the weave repeat.

3.8 crepe: A weave having a random distribution of floats so as to produce an all over effect in the fabric to disguise the repeat.

NOTE - Crepe effect is also obtained by using high twist yarns or by suitable finishing treatment .

3.8.1 moss crepe: A crepe weave with a repeat in the warp and weft directions, relatively large compared with that of crepe weave.

3.9 leno: A term commonly used as a synonym for leno weaving in which warp threads are made to cross one another between the picks.

NOTE - The simpler types of light weight fabric produced by this method of weaving are known as 'gauze'.

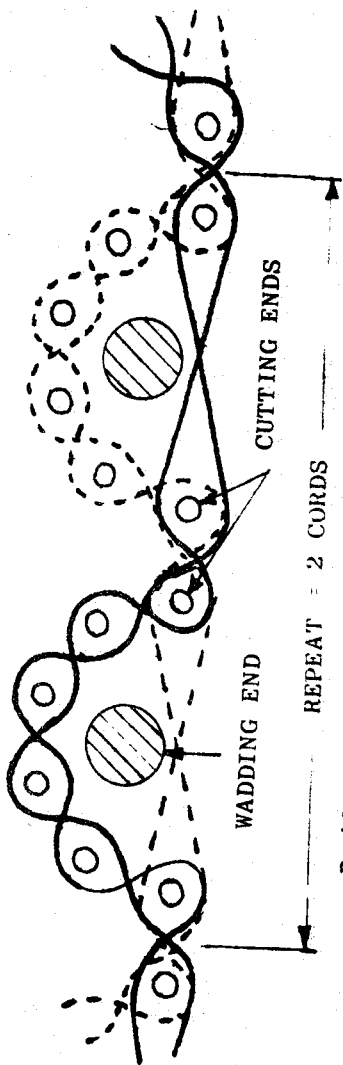
3.9.1 mock leno: A woven fabric using a mock leno weave. The open-mesh character of a mock leno fabric results primarily from the weave. Arrows on the weave diagrams (see Appendix) show where the spaces will develop, because at these places the interlacings completely reverse. Elsewhere, the interlacings are such that the threads crowd together.

3.10 honeycomb: Descriptive of a fabric in which the warp and weft threads form ridges and hollows, which give a cellular appearance. Three types of weaves that produce this effect are

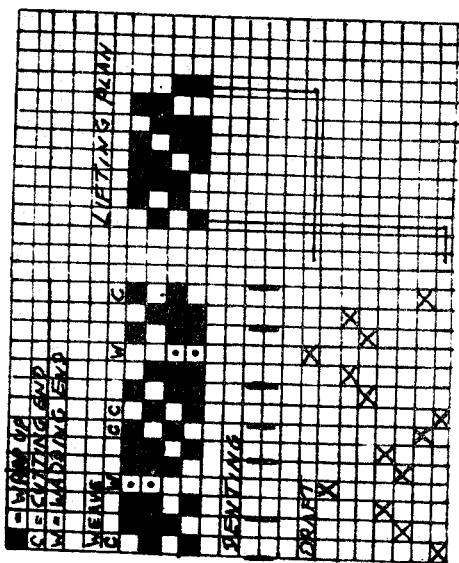
- a) ordinary honeycomb, which gives a similar cellular effect on the face and back of the cloth;
- b) Brighton honeycomb, which develops the cellular effect more prominently on the face, and
- c) Grecian which may give the cellular effect on the face only or on both face and back.

3.11 huckaback: This weave is characterized by a rough surface which is produced by floating threads in groups arranged on a plain weave basis.

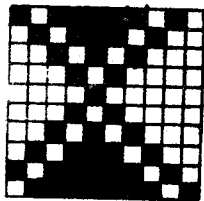
3.12 bedford cord: This weave produces a cloth showing rounded cords in the warp direction with pronounced sunken lines between them, produced by the nature of the weave. The weave on the face of the cord is usually plain, but other weaves may be used. There are weft floats, the width of the cords on the back wadding ends may be used to accentuate the prominence of the cords.



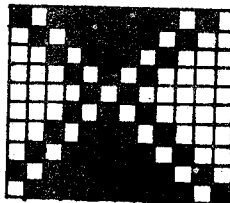
Bedford cord: section through the warp



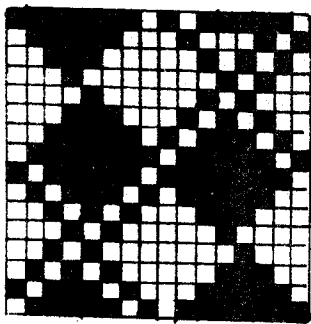
Bedford cord : Weave diagram with drafting, denting and lifting plans



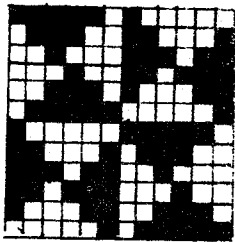
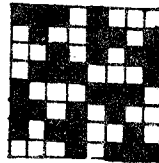
Ordinary



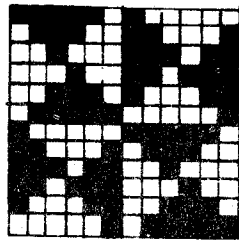
Ordinary



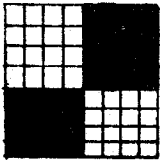
Brighton



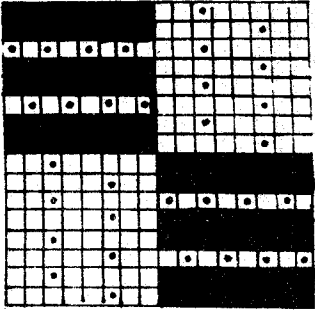
Grecian



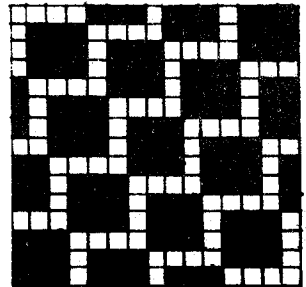
Grecian weave (simple)



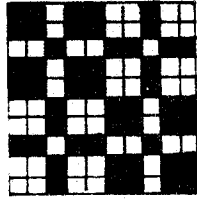
Hopsack



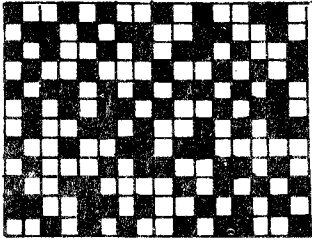
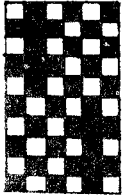
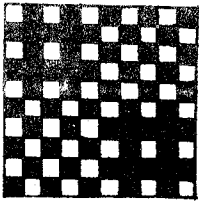
Stitched hopsack



Twilled hopsack

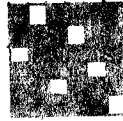
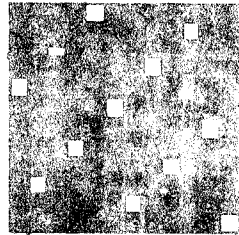


Fancy hopsack



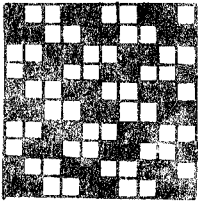
Huckaback weaves

Moss crepe weave

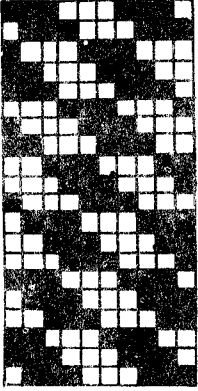


11 Regular satin weave

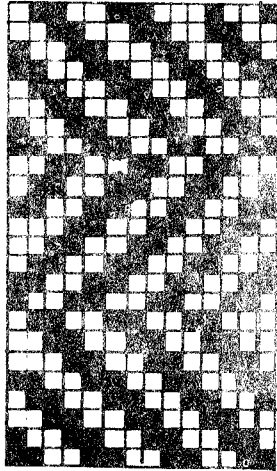
5 Irregular satin weave



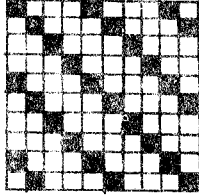
2 $\frac{2}{2}$ Broken twill weave



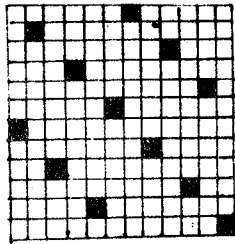
3 $\frac{3}{3}$ Broken twill weave



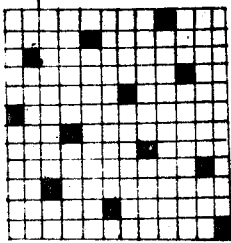
Herringbone twill weave



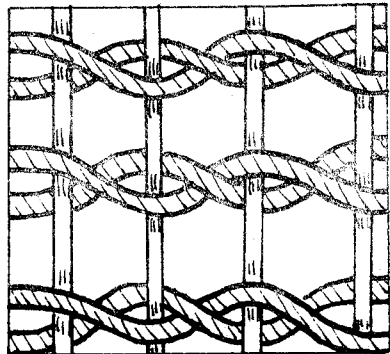
Regular ($\frac{1}{3}$) twill weave



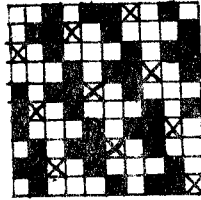
1 Regular sateen weave
11



1 Irregular sateen weave
11

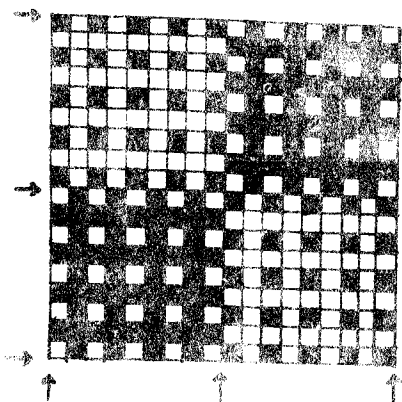


Leno weave

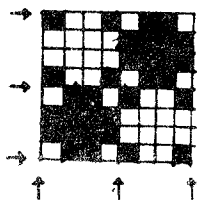


CREPE WEAVE - CONSTRUCTED ON A

10- THREAD SATEEN BASIS



Mock-leno weaves



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