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Textile machinery and accessories — Pattern disks and pattern chains for warp knitting machines — Vocabulary and symbols

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Second edition
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Textile machinery and accessories — Pattern disks and pattern chains for warp knitting machines — Vocabulary and symbols

Matériel pour l'industrie textile — Disques d'armature et chaînes d'armature pour machines à tricoter à mailles jetées — Vocabulaire et symboles

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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 72, *Textile machinery and accessories*, Subcommittee SC 3, *Machinery for fabric manufacturing including preparatory machinery and accessories*.

This second edition cancels and replaces the first edition (ISO 11676:1994), which has been technically revised.

INTERNATIONAL STANDARD ISO 11676:2014(E)

Textile machinery and accessories — Pattern disks and pattern chains for warp knitting machines — Vocabulary and symbols

1 Scope

This International Standard defines terms and marking of pattern disks and patterns chains for warp knitting machines.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8188, *Textile machinery and accessories — Pitches of knitting machines*

ISO 10223, *Textile machinery and accessories — Flat warp knitting machines — Numbering of guide bars*

3 Terms and definitions

3.1 Terms for pattern discs

3.1.1
pattern disc
disc cam for controlling the lateral motion of the guide bars and component of the mechanically controlled pattern drive

3.1.2
type of pattern disc
classification of the pattern disc to a corresponding type of pattern gear

Note 1 to entry: Usual are the types N (standard) and E (elongated).

3.1.3
gauge
number of needles in a needle bed per reference length

[SOURCE: ISO 11675:2005, 5.11]

3.1.4
number of courses
number of stitch rows controlled by one revolution of the pattern disc

3.1.5
direction of rotation
instructed assembly position of the pattern disc according to the direction of rotation of the pattern gear

3.1.6
starting of the notation
position of the pattern disc in the pattern gear for the starting position of the notation

3.1.7
fitting borehole
borehole for the relative positioning of the pattern discs to each other for the respective start of the notation

3.2 Terms for pattern chains

3.2.1
pattern chain
endless chain-links assembled of pattern chains and pins for control of the lateral motion of the guide bars, driven by the pattern drum of mechanically controlled pattern drives

[SOURCE: ISO 8640-3, modified]

3.2.2
chain-link
individual link of a pattern chain with variable execution in height and form

3.2.3
chain-link type
classification of the chain-link to a corresponding type of pattern gear

Note 1 to entry: Usual are the types N (standard) and E (elongated).

3.2.4
gauge
number of needles in a needle bed per reference length

[SOURCE: ISO 11675:2005, 5.11]

3.2.5
foot radius of the chain-link
radius of curvature of the bearing surface of the chain-link, which corresponds to the radius of the bearing surface of the pattern drum

Note 1 to entry: See Figure 2 and Figure 3.

3.2.6
chain-link height
size of the head radius of the chain-link, indicated as natural number, which corresponds to a multiple of the needle pitch above the minimum height

Note 1 to entry: See Figure 2 and Figure 3.

Note 2 to entry: The minimum chain-link height, *0*, corresponds to the smallest head radius of the chain-link.

3.2.7
standard chain-link
chain-link with a certain chain-link height, either without tie or with straight tie

3.2.8
straight chain-link
standard chain-link with constant chain-link height, i.e. without tie

Note 1 to entry: See Figure 2.

3.2.9
rising chain-link
standard chain-link with straight tie at the beginning

Note 1 to entry: See Figure 2.

3.2.10
declining chain-link
standard chain-link with straight tie at the end

Note 1 to entry: See Figure 2.

3.2.11
rising and declining chain-link
standard chain-link with straight tie at the beginning and at the end

Note 1 to entry: See Figure 2.

3.2.12
standard chain
pattern chain consisting of standard chain-links

Note 1 to entry: Standard chains can always be put together anew in different order of the standard chain-links to different notations.

3.2.13
profile chain-link
chain-link of a certain chain-link height with curved transitions

Note 1 to entry: See Figure 3.

3.2.14
profile chain
pattern chain consisting of profile chain-links

Note 1 to entry: Profile chains should be used only in the predetermined order of the profile chain-links for certain notations.

4 Marking

4.1 Marking of pattern discs

Pattern discs are marked with the indication for machine type (see 4.1.1), gauge (see 4.1.2), stitch row number (see 4.1.3), notation (see 4.1.4), starting of the notation (see 4.1.5), fitting borehole (see 4.1.6), direction of rotation (see 4.1.7), and classification of guide bars (see 4.1.8).

The marking is illustrated in detail as follows:

4.1.1 Machine type

A pattern disc is intended for a certain machine type, which is indicated on the pattern disc.

4.1.2 Gauge

A pattern disc is intended for a certain gauge, which shall be indicated in accordance with ISO 8188 (see Figure 1).

NOTE 1 If a pattern disc is intended especially for a machine partly set with needles, a slash is indicated behind the gauge and the divider of the needle insert.

EXAMPLE 1 E6/3 means gauge E6 with the divider 3 for the needle insert 1 full/2 empty//in the needle bar and thus, existing gauge E2.

NOTE 2 For indirectly controlled pattern gear, an equivalent gauge results from the gauge and the lever ratio of the shog lever for the pattern disc, which is additionally indicated in brackets.

EXAMPLE 2 E8 (E12) means a gauge E8 and an equivalent gauge E12, which results from the lever ratio 1,5 of the shog lever.

4.1.3 Stitch row number

The stitch row number can be indicated for pattern discs with the index C, for RR flat warp knitting machines with the index DC. Besides as alternative, the stitch row number can be indicated as transmission ratio in form X:1, whereas, X is the number of machine revolutions per pattern disc revolution.

NOTE 1 For RL flat warp knitting machines, the number of machine revolutions per pattern disc revolution corresponds to the number of stitch rows.

NOTE 2 16C respectively 16:1 means that the RL stitch row number is 16, i.e. for 16 machine revolutions the pattern disc turns once.

NOTE 3 12DC respectively 12:1 means that the RR stitch row number is 12, i.e. for 12 machine revolutions the pattern disc turns once.

4.1.4 Notation

The notation steered by the pattern disc is indicated in form of the lapping notation. At the same time, the numbering starting from zero is to be applied with the increment 1 (see Figure 1).

NOTE In 4.1.2 Note 1, the lapping notation corresponds with the needle insert in the needle bar, i.e. for the machine partly set with needles the notation will be indicated according to this needle setting and not in regard to the maximum possible needle setting.

EXAMPLE 1 1–0/1–2// refers to the tricot notation with full needle setting.

EXAMPLE 2 0–0/3–3// with the needle setting 1 full/2 empty//(E6/3) refers to the inlay below 3 set needles, which results in a weft notation below 9 pitches and not below 3 pitches.

4.1.5 Starting of the notation

The start of the notation is identified on the pattern disc by means of a marking.

4.1.6 Fitting borehole

When several fitting boreholes exist on a pattern disc (see Figure 1), these individually have to be marked in regard to the lapping notation.

4.1.7 Direction of rotation

The required direction of rotation of the pattern disc is indicated by means of an arrow (see Figure 1).

4.1.8 Classification of guide bars

If a pattern disc is not applicable on all guide bar positions, then the guide bar positions on which the pattern disc shall be used shall be indicated in accordance with ISO 10223 (see Figure 1).

NOTE The indication “only GB1” means that the pattern disc is suitable only for GB1.

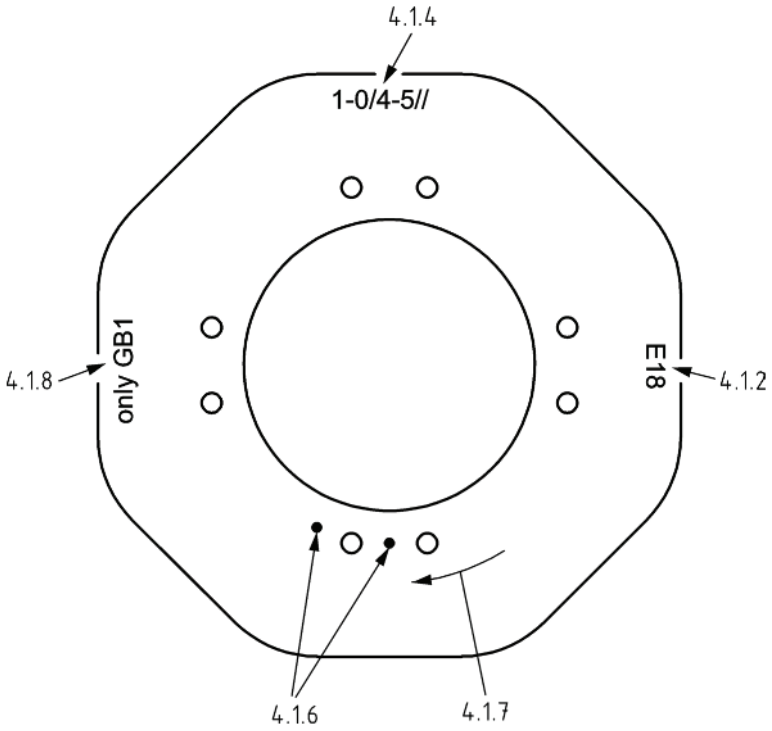

Figure 1 — Pattern disc in gauge E18 with two fitting boreholes for notation 1-0/4-5// or 4-5/1-0//, only for GB1

4.2 Marking of standard chain-links

4.2.1 Gauge

A chain-link is intended for a certain gauge. This gauge is indicated on the chain-link only as a number without indicating the code letter E or F.

NOTE For indirectly controlled pattern drives, the adequate gauge results from the gauge of the chain-link and the lever ratio of the shog lever, which is not indicated on the chain-link.

4.2.2 Chain-link height

The chain-link height is indicated as whole number (see Figure 2).

NOTE After the number for the chain-link height, the code letter can be indicated as a for a straight, b for a rising, c for a falling, and d for a rising and falling chain-link.

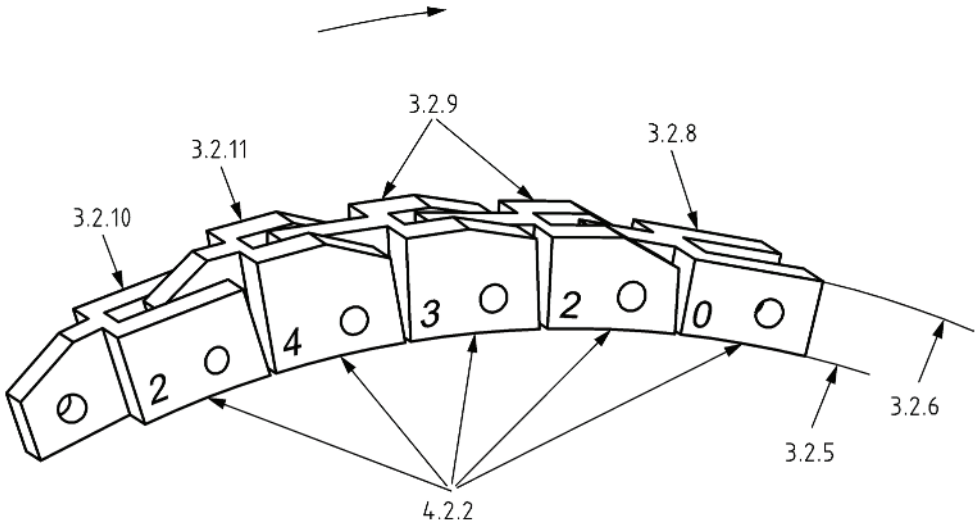

Figure 2 — Part of a standard pattern chain, unpinned, consisting of five standard chain-links in the heights of 0, 2, 3, 4, and 2

4.3 Marking of profile chains

Profile chains are marked with the indication of machine type (see 4.1.1), gauge (see 4.1.2), and notation (see 4.1.4).

Additionally, profile chains are marked with a numeration of the order of the chain-links.

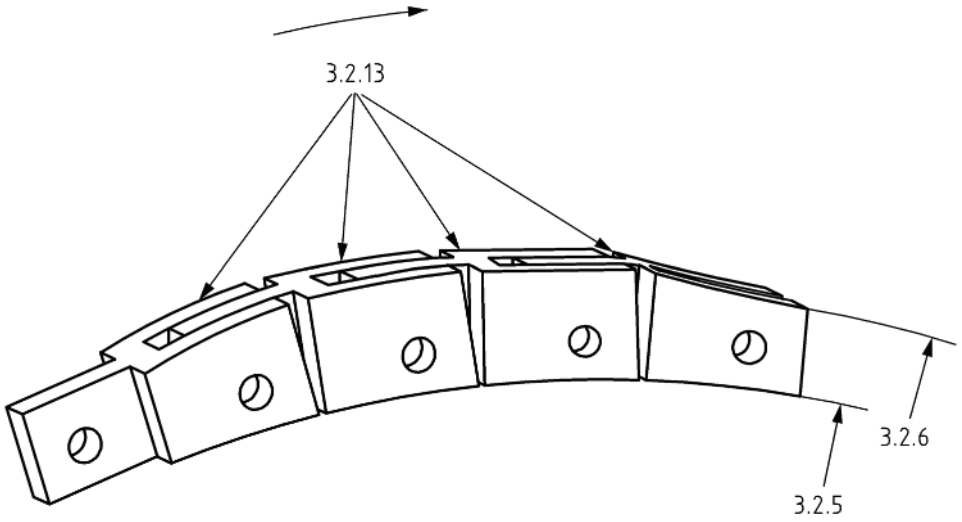

Figure 3 — Part of a profile pattern chain, unpinned, consisting of four profile chain-links

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[1] ISO 8640-3, *Textile machinery and accessories — Flat warp knitting machines — Part 3: Vocabulary of patterning devices*

[2] ISO 11675:2005, *Textile machinery and accessories — Flatbed knitting machines — Vocabulary*

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