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Cards for staple fibres spinning — Vocabulary and principles of construction

Cardeuse pour la filature des fibres discontinues — Terminologie, principes de construction

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Foreword

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Cards for staple fibres spinning — Vocabulary and principles of construction

1 Scope

This International Standard specifies terms and definitions for the card with regard to spinning procedure for cotton and other staple fibres.

2 Normative references

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

ISO 92, *Textile machinery and accessories — Spinning machinery — Definition of sides (left or right)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE The descriptions with parenthesised numbers are dealt with separately under these numbers.

3.1 Basic terms

3.1.1
card
machine to open fibre tufts – up to the single fibre – to separate contamination, dust and short fibres, and to produce a web that will be formed into the sliver

3.1.2
flat card
card that is characterized by movable flats above the cylinder (3.4.4)

3.2 Width dimensions

See Figure 1.

Dimensions in millimetres

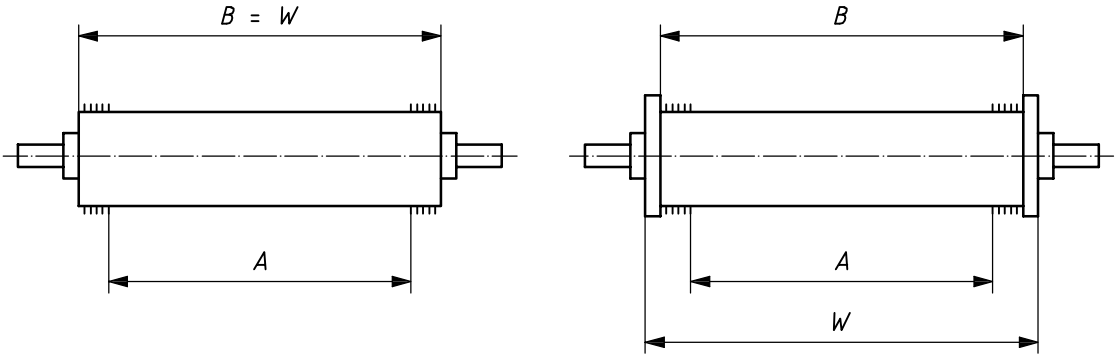


Figure 1 — Width dimensions

3.2.1
clothing width

B

decisive width for calculating the clothing length, equivalent to the cylinder width *W*, less possible end plates

3.2.2
cylinder width

W

complete width of roll barrel, including possible end plates

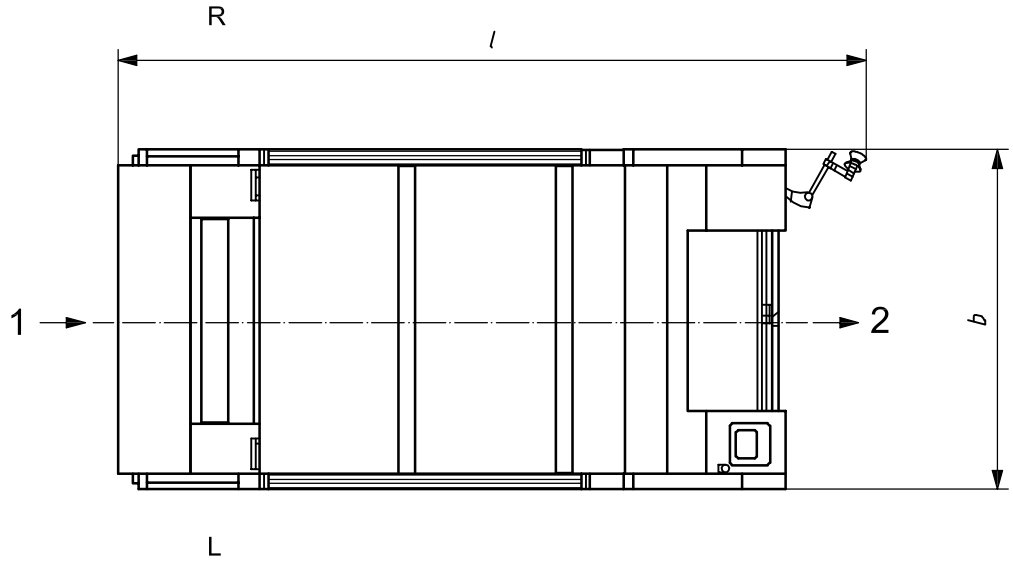
3.2.3
working width

A

cover width of fibre material on the roll

3.3 Definition of sides, dimensions

See Figure 2.



Key

1 feed area (rear)
2 delivery area (front)
b machine width (over casing)
l machine length (without deposit system)
R right side
L left side

Figure 2 — Definition of sides, dimensions

3.3.1
right side
R
side on the right, when looking against the fibre flow

See ISO 92.

3.3.2
left side
L
side on the left, when looking against the fibre flow

See ISO 92.

3.3.3
work flow direction
material flow
direction of fibre flow

3.3.4
drive side
side equipped with cylinder (3.4.4) drive

3.4 Components

See Figure 3.

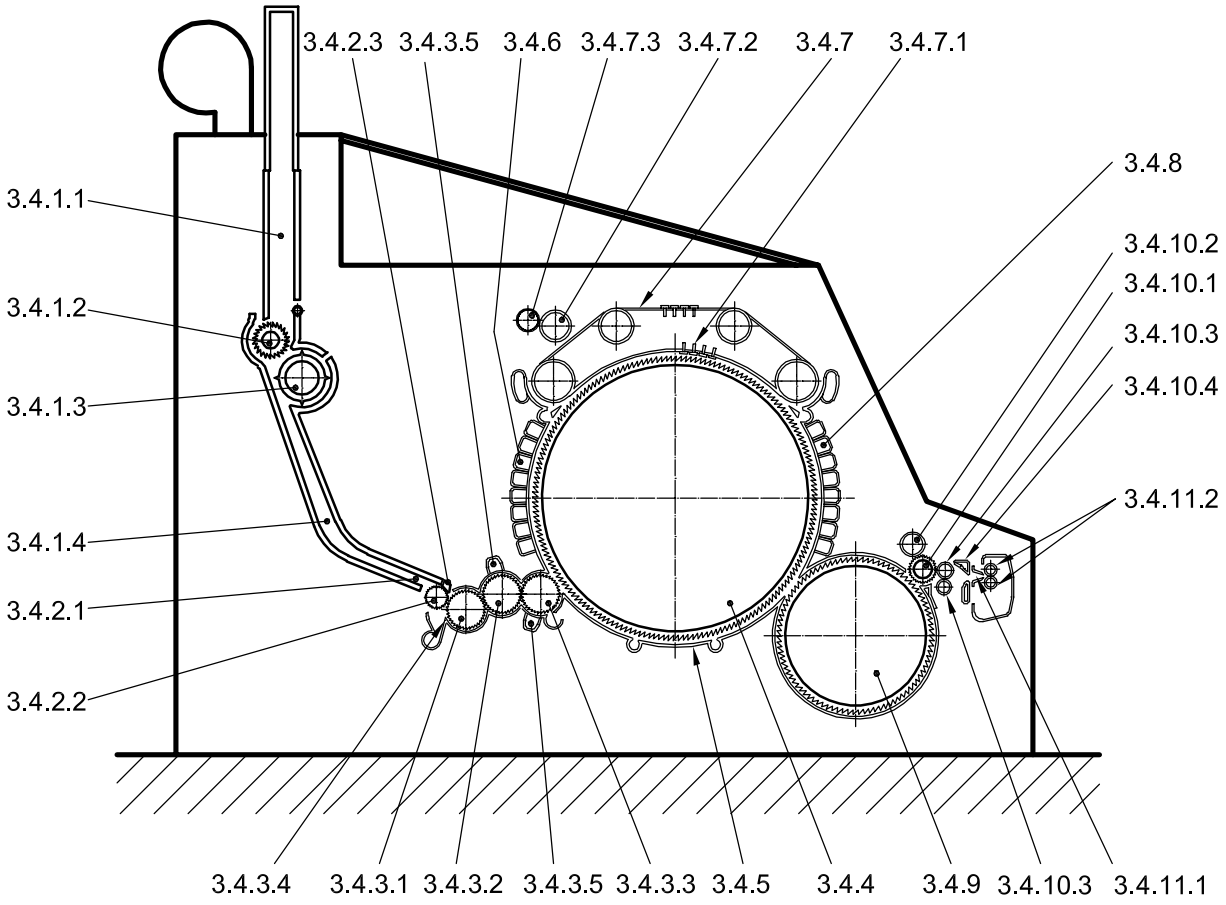


Figure 3 — Components

3.4.1 Tuft feeding

3.4.1.1
upper trunk
reserve trunk
filling trunk to collect and store the fibre material

3.4.1.2
feed roll
transport and clamping of fibre material against the feed tray, for the purpose of feeding the opening roll

3.4.1.3
opening roll
roll that releases the fibre material from the clamped beating and with the supporting air current delivers individual tufts into the transfer trunk

3.4.1.4
transfer trunk
junction-canal between opening roll and feeding area of the card

3.4.2 Feeding area of card

3.4.2.1
feed tray
tray-shaped component to compress and clamp the tuft material opposite from the feed roll

3.4.2.2
feed roll
transport and clamping of fibre material against the feed tray and measuring device, for the purpose of feeding the first licker-in, the roll continuing to serve as regulator of the mass flow

3.4.2.3
device to measure the web thickness
device to measure the thickness of the fed tuft flow

3.4.3 Licker-in

3.4.3.1
licker-in 1
roll with spikes or clothing, which releases the tuft material from the clamped beating and transports it to the 2nd licker-in

3.4.3.2
licker-in 2
opening and transfer roll, equipped with clothing

3.4.3.3
licker-in 3
opening and transfer roll, equipped with clothing

3.4.3.4
licker-in knife
separation place
knife, adjustable to the licker-in, to separate coarse contamination

3.4.3.5
carding element
element equipped with clothing for the pre-opening of fibre tufts, adjustable to the licker-in

3.4.4
cylinder
tambour
main working cylinder of a card, with clothing, which – in interaction with the revolving flats as well as the pre-carding and post-carding zone – serves for the opening of the fibre tufts up to the single fibre

3.4.5
cylinder cover, bottom
element regulating the air balance underneath the cylinder

3.4.6
pre-carding zone
work area with carding elements and extracting elements, adjustable to the cylinder

3.4.7 Revolving flat system with cleaning device

3.4.7.1
revolving flat
bar equipped with clothing, adjustable to the cylinder

NOTE Both ends of the bar have guiding elements that form the base on the flexible bend. The revolving flat glides at low speed over the periphery of the flexible bend. Approximately 28 revolving flats are situated in the work area at the same time.

3.4.7.2
flat strips roll
roll barrel with suitable clothing to clean the revolving flat

3.4.7.3
cleaning roll for flat strips roll
roll barrel with suitable clothing to clean the flat strips roll

3.4.8
post-carding zone
work area with carding elements and extracting elements, adjustable to the cylinder

3.4.9
doffer
roll with clothing, to remove the fibres from the cylinder (web formation) and transport them to the stripper roll

3.4.10 Web doffing

3.4.10.1
stripper roll
roll with clothing, to strip off the fibre web from the doffer

3.4.10.2
cleaning roll
roll with suitable clothing to clean the stripper roll

3.4.10.3
press rolls
roller pair to take over web from the stripper roll and to crush seed coat fragments that have not been separated yet

NOTE The roll slit is adjustable.

3.4.10.4
webspeed
special formed plate to support sliver formation, acting as guidance during the conversion from fibre web to fibre sliver

3.4.10.5
cross belt
moving belt to support sliver formation, actively transforming the fibre web with the surface of the belts into the sliver

3.4.11 Delivery

3.4.11.1
sliver funnel
further formation of the web, gathered by webspeed and cross sliver, into sliver

NOTE The sliver funnel is usually equipped with a measuring system for acquisition of the sliver mass.

3.4.11.2
delivery roll
disc-shaped roll for compacting of pre-formed sliver

NOTE The discs are optionally designed as stepped rolls or plain rolls and constitute the last process step in sliver formation.

Annex A
(normative)

Principles of construction

A.1 Feeding

A.1.1 Integrated feeding

The tuft web is formed immediately prior to the feed roll.

A.1.2 Feeding with transfer

The tuft web is formed in the feeding trunk and subsequently transferred to the feed rolls.

A.2 Cards

A.2.1 Card with one licker-in

A.2.2 Card with three lickers-in

A.2.3 Card with cross-belt delivery

A.2.4 Card with webspeed

A.3 Standard working widths

1 000 mm and1 500 mm.

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