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Textile machinery and accessories — Web roller cards — Terms and definitions

Matériel pour l'industrie textile — Non-tisseé cardes à hérissons — Terminologie

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Foreword

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The committee responsible for this document is ISO/TC 72, *Textile machinery and accessories*, Subcommittee SC 1, *Spinning preparatory, spinning, twisting and winding machinery and accessories*.

Textile machinery and accessories — Web roller cards — Terms and definitions

1 Scope

This International Standard defines terms of the card with a web-forming method using staple fibres for non-woven machinery.

2 Terms and definitions

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

2.1 Basic terms

2.1.1
web roller card
machine for mechanical web formation with at least two working rollers for opening fibre tufts and for producing unconsolidated textile fabric

[SOURCE: *web* (2.3.3)]

2.1.2
work flow direction
direction of fibre flow through machine (material flow)

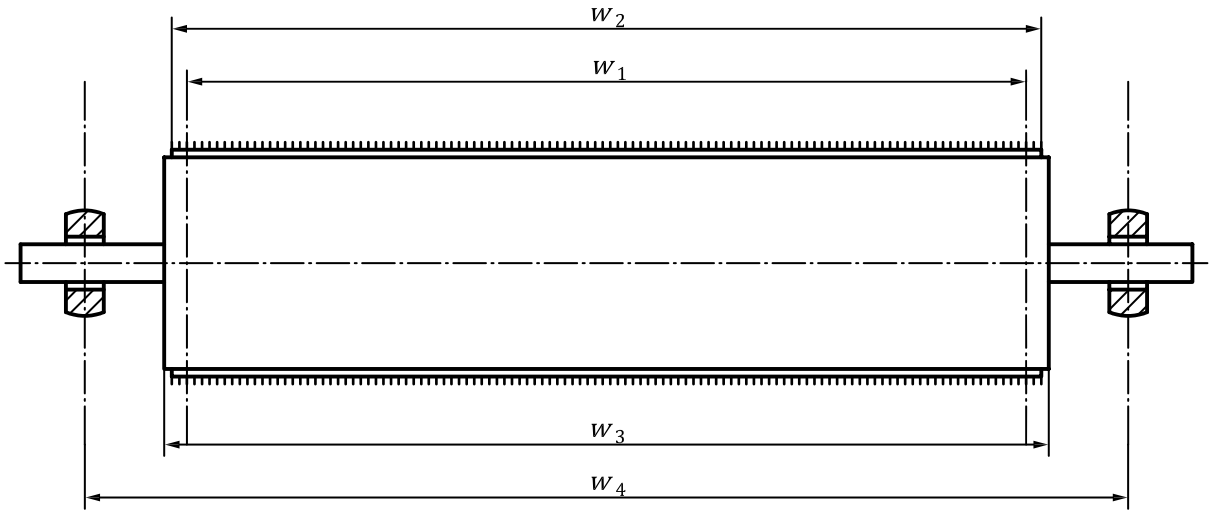
2.1.3
entry side
side on which the fibre flow enters the machine

2.1.4
delivery side
side on which the fibre flow runs out the machine

2.1.5
right side
side of the machine which, when looking in the direction of the fibre flow, is situated on the right

2.1.6
left side
side of the machine which, when looking in the direction of the fibre flow, is situated on the left

2.2 Width dimensions



Key

w_1 working width
w_2 width of carding wire
w_3 cylinder width
w_4 bearing centre distance

Figure 1 — Width dimensions

2.2.1
cylinder width
w_3
overall width of roller body when designed with flanges including these flanges

Note 1 to entry: See Figure 1.

2.2.2
width of carding wire
w_2
width decisive for calculating carding wire equal to the cylinder width less possible flanges

Note 1 to entry: See Figure 1.

2.2.3
working width
w_1
theoretically utilizable cover width of fibre material on the roller

Note 1 to entry: See Figure 1.

2.2.4
bearing centre distance
w_4
distance between two bearing centres

Note 1 to entry: See Figure 1.

2.3 Technological terms

2.3.1
draft
V
relationship of delivery speed, v_2, to entry speed, v_1

Note 1 to entry: See Formula (1).

$$V = \frac{v_2}{v_1} \tag{1}$$

2.3.2
distribution
A_F
relationship of circumferential speed on the main cylinder, v_3, to entry speed, v_1

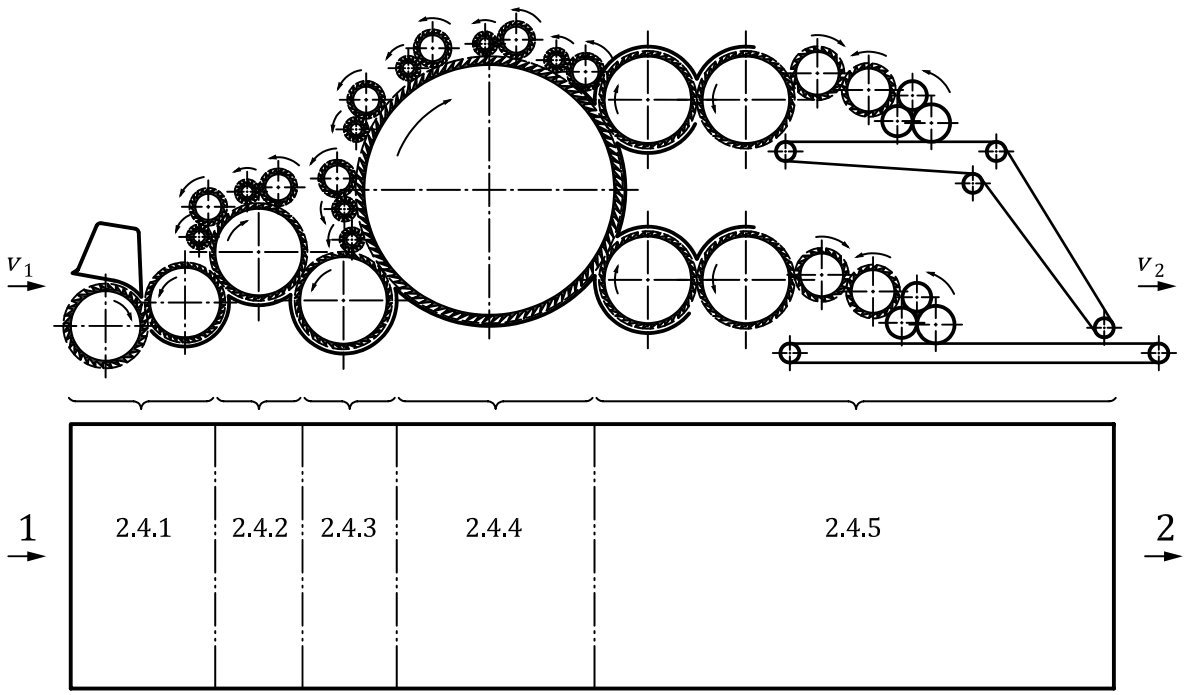
Note 1 to entry: See Formula (2).

$$A_F = \frac{v_3}{v_1} \tag{2}$$

2.3.3
web
unconsolidated fibre fabric made out of individual fibres aligned according to card type

2.4 Machine components

NOTE See Figure 2.



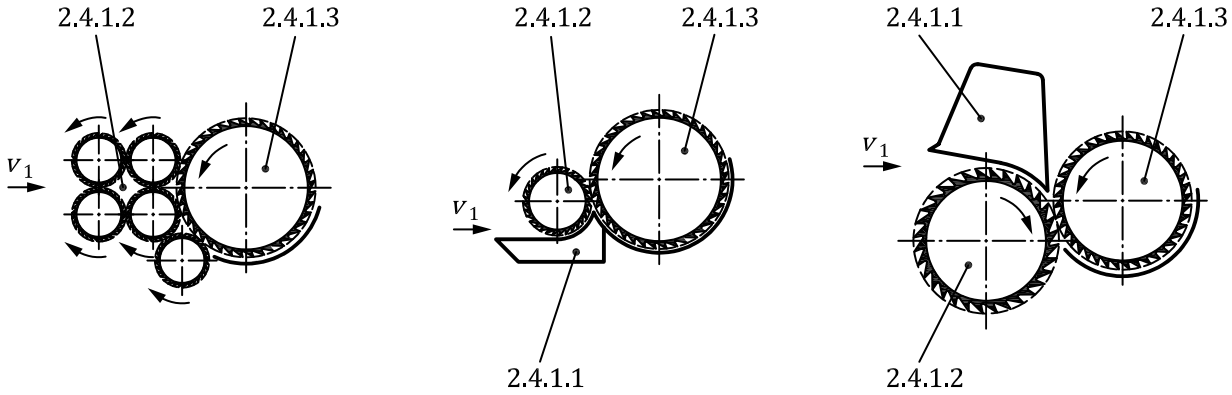
Key

v_1 speed at the entry
v_2 speed at the delivery

Figure 2 — Machine components

2.4.1 Feed unit

NOTE See Figure 3.



a) multiroller feed unit b) **conventional feed plate** c) **overhead feed plate**

Figure 3 — Feed unit

2.4.1.1
feed plate
device for clamping fibre material prior to first opening of fibre material in the web-forming machine

2.4.1.2
feed roller
one or several rollers for feeding fibre material to the web-forming machine

2.4.1.3
taker-in roller
roller between *feed roller* (2.4.1.2) and *breast cylinder* (2.4.2.2) for first opening of fibre material in the web-forming machine

2.4.2 Breast unit

2.4.2.1
breast unit
breast cylinder (2.4.2.2) with *worker* (2.4.2.3) and *stripper rollers* (2.4.2.4) for further opening of fibre material

Note 1 to entry: See Figure 4.

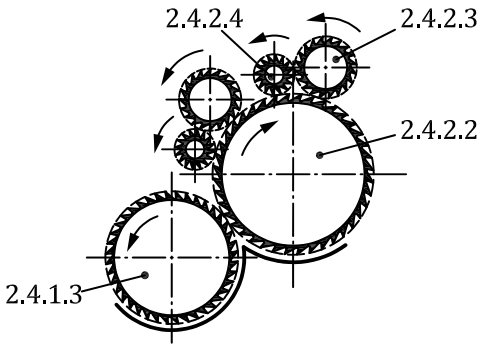


Figure 4 — Breast unit

2.4.2.2
breast cylinder
main cylinder of breast unit in front of *main cylinder* (2.4.4.1)

2.4.2.3
worker roller
roller which, due to its low circumferential speed compared to that of the *breast cylinder* (2.4.2.2) and its reverse position of teeth, partly takes up the fibre material, opens it and feeds it indirectly to the breast cylinder via the *stripper roller* (2.4.2.4)

2.4.2.4
stripper roller
roller which removes fibre material adhered to the *worker roller* (2.4.2.3) and feeds it back to the *breast cylinder* (2.4.2.2)

2.4.3 Transfer unit

2.4.3.1
transfer unit
roller or roller combination between *breast unit* (2.4.2.1) and *main cylinder unit* (2.4.4.1) for transferring fibre material to the *main cylinder* (2.4.4.2)

Note 1 to entry: See Figure 5.

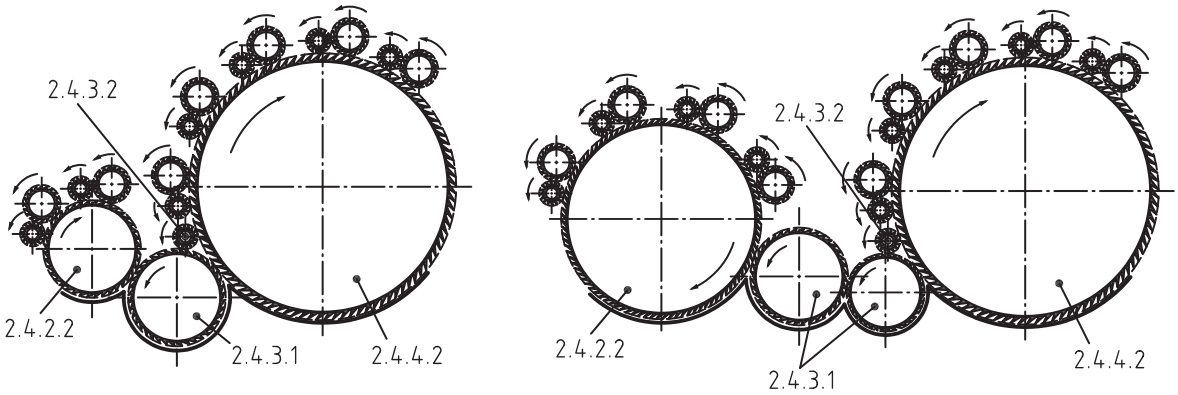


Figure 5 — Transfer unit

2.4.3.2
wind roller
roller between two cooperating rollers with the purpose to collect fibres and lead them to one of the two rollers

Note 1 to entry: Sealing rollers can be used at different places of the machine.

2.4.4 Main cylinder unit

2.4.4.1
main cylinder unit
main cylinder(s) of the web-forming machine [*web roller card* (2.1.1)], which, in combination with the *worker rollers* (2.4.4.3), perform(s) most of the opening of the fibre material to individual fibres

Note 1 to entry: See Figure 6.

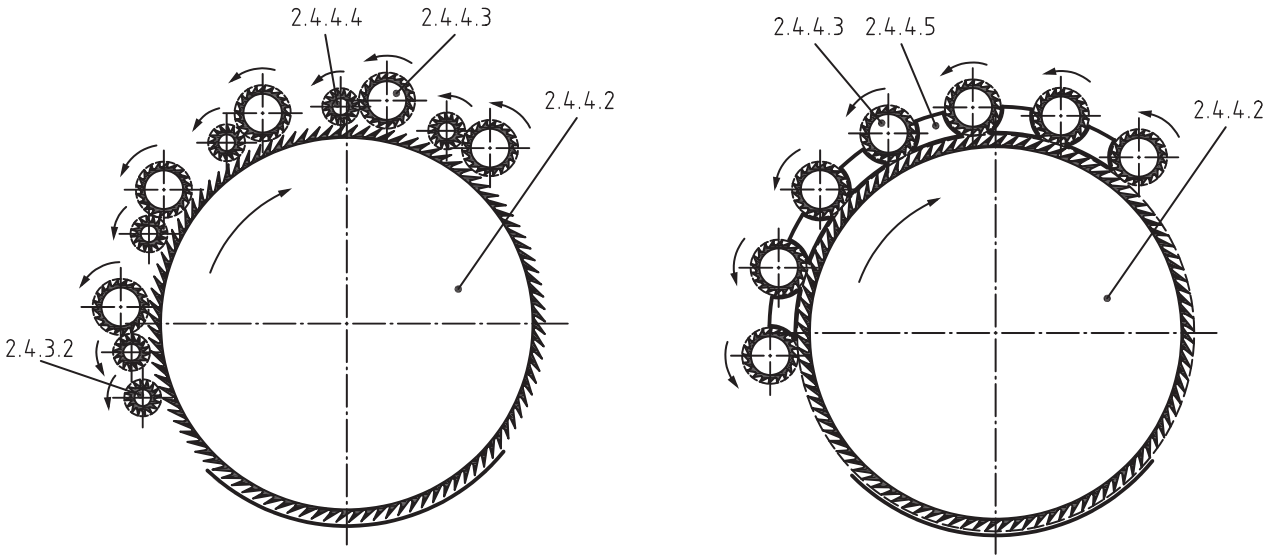


Figure 6 — Main cylinder unit

2.4.4.2
main cylinder
cylinder which delivers fibres to the *take-off unit* (2.4.5.1)

2.4.4.3
worker roller
roller which, due to its low circumferential speed compared to that of the *main cylinder* (2.4.4.2) and its reverse position of tooth, partly takes up the fibre material, opens it and feeds it indirectly to the main cylinder via the *stripper roller* (2.4.4.4)

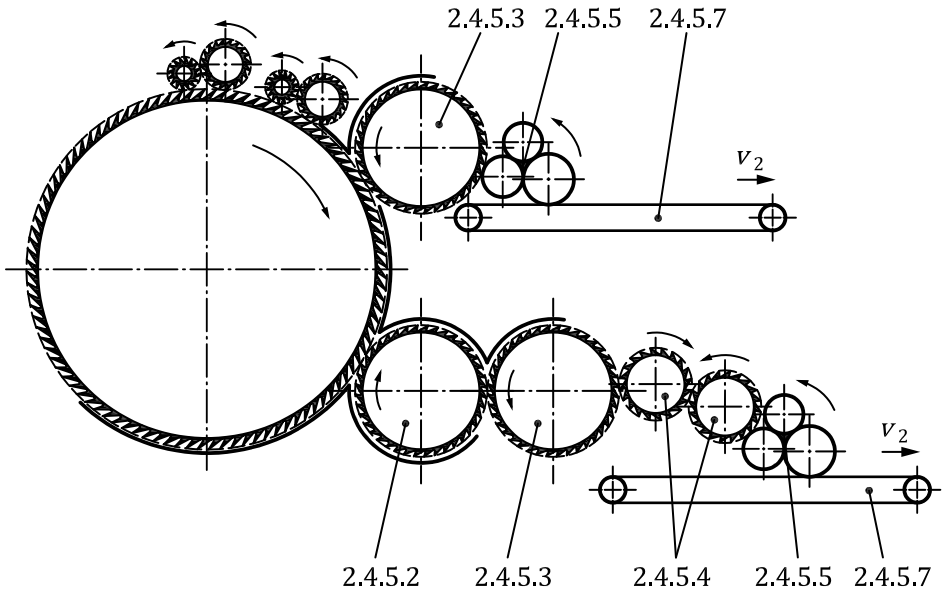
2.4.4.4
stripper roller
roller which removes fibre material adhered to the *worker roller* (2.4.4.3) and feeds it back to the *main cylinder* (2.4.4.2)

2.4.4.5
fibre guiding element
element for guiding fibre material taken up by the *worker roller* (2.4.4.3)

2.4.5 Take-off unit

2.4.5.1
take-off unit
unit for taking off material from the *main cylinder* (2.4.4.2)

Note 1 to entry: See Figure 7.



Key

v_2 delivery speed of the take-off unit

Figure 7 — Take-off unit

2.4.5.2
random roller
roller which, due to its circumferential speed, direction of rotation and tooth position, produces a special random orientation of the fibres in the *web* (2.3.3)

2.4.5.3
doffer
roller which takes off the fibre material of the *random roller* (2.4.5.2) or of the *main cylinder* (2.4.4.1) thus forming the *web* (2.3.3)

2.4.5.4
condensing roller
roller for compressing and re-orienting of the *web* (2.3.3) from the doffer or upstream condensing roller

2.4.5.5
take-off roller
rotating device for web discharge

2.4.5.6
take-off combing device
oscillating device for web discharge

Note 1 to entry: See Figure 8.

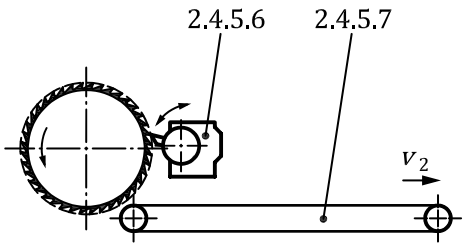


Figure 8 — Take-off combing device

2.4.5.7
web transport conveyor
equipment for transportation of *web* (2.3.3)

Note 1 to entry: See Figure 8.

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