



# VOLGA JSC BALAKHNA PAPER MILL











Volga JSC is one of the largest paper mills in Russia. The Company specializes in the manufacture of light and ultra-light containerboard, and also manufactures printing paper.

The mill is located on the banks of the Volga river in Balakhna, Nizhny Novgorod region, 450 km from Moscow. The history of the Company dates back to 1928, when the first paper-making machine was launched. Since then, the Company has evolved and modernized in line with global trends in the pulp and paper industry.

The annual output of the Company exceeds 330 thousand tons of paper and container board annually. The products of Volga JSC have been repeatedly awarded with diplomas of the All-Russian competition «100 Best Goods of Russia» and are exported to more than 60 countries of the world.

In 2024, it is planned to streamline paper-making machine No. 6, as well as launch MM-500 new recycled pulp line. This will make it possible to increase the production capacity of the industrial complex by 170 thousand tons per year and provide the Customers of Volga JSC with the necessary product volume of benefit-giving qualities.



### Proven product quality

own quality laboratory, investments in equipment, availability of quality certificates and diplomas



### Attractive logistics solutions

availability of convenient transport infrastructure, implementation of multimodal shipments, delivery of products to any destination in the world



### **Customer service**

timely execution of orders, agreed terms for receiving products, prompt support for the Buyer, the ability to place an order through a personal account



### Wide range of products

more than 100 commodity items, many available paper sizes and weights



### Flexible financial instruments

individual terms of cooperation



### Contribution to the environment

use of thermomechanical pulp and waste paper, responsible forest management, respect for the environment

# **Countries of Volga JSC presence Routes and logistics**

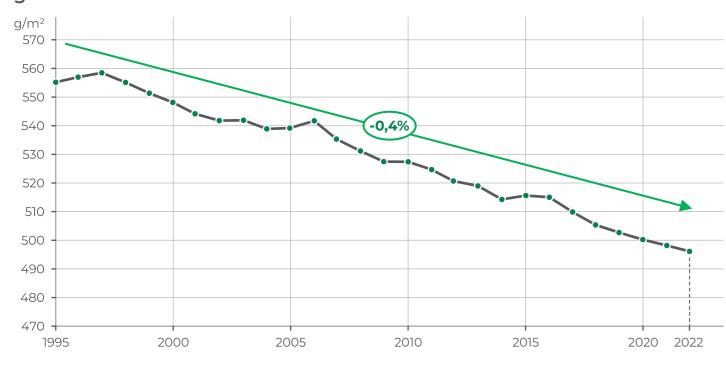




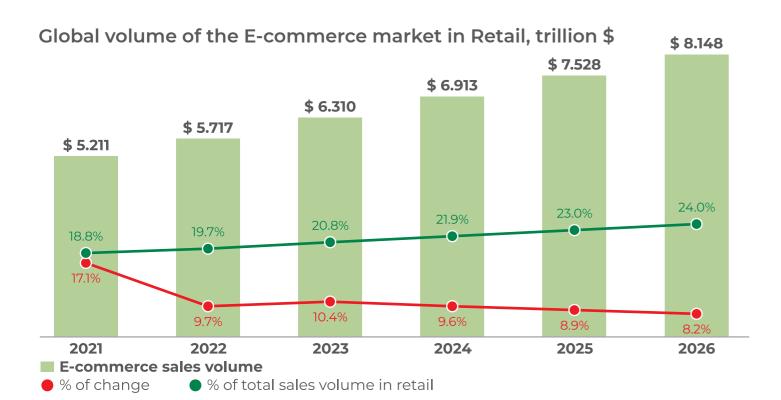
# **Current trends in the Corrugated Fiberboard Market**



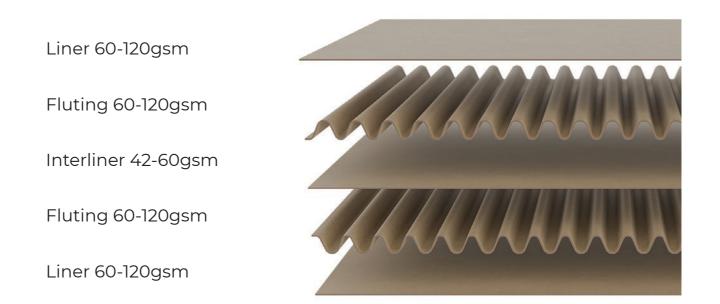
Reduction in corrugated packaging weight – long-term movements in the global market



The main driver of reduction in package weight is the gaining share of on-line purchases and goods delivery services.



Volga JSC specializes in the production of light and ultra-light containerboard from 42gsm to 120gsm, which are in demand in the fast-growing E-commerce segment.



The use of lightweight containerboard in the production of corrugated cardboard allows reducing the specific consumption of components in the terms of a square meter of cardboard.

When switching to lightweight and ultra-light containerboards from Volga JSC, corrugated cardboard manufacturers receive a larger surface area compared to standard containerboard.

- 1 tonne 140 gsm containerboard 7,143 square meters of surface area
- O 1 tonne 90 gsm fluting paper or liner 11,111 square meters of surface area
- 1 tonne 45 gsm interliner Volga JSC 22,222 square meters of surface area

Corrugated fiberboard manufacturers are heavily experimenting with packaging characteristics in order to minimize costs while maintaining a sufficient level of consumer properties. The experimental results are focused on reduction in package weight driven by combination of ultra-light layers.



## Interliner

### Corrugated case material for flat inner layers of corrugated board



100% virgin fiber



cost effectiveness



uniform winding density



web stability



wide range of applications



safe food contact1



environmental friendliness

The use of ultra-lightweight liners for flat inner layers of corrugated board is a modern trend and allows reducing the specific consumption of components (in terms of a square meter of cardboard) without compromising structural strength.



**HS code:** 480519 / 480591

### **Applications:**

- O for the production of corrugated cardboard
- universal packaging and wrapping material (for flowers, food and fragile products)
- O as a box filler
- O for the production of paper bags for fast food
- O in furniture production

| Reel width<br>(mm) | Paper basis<br>weight (g/m²) | Reel diameter (mm) | Paper S | hade <sup>2</sup> |
|--------------------|------------------------------|--------------------|---------|-------------------|
| 420-2500           | 42 – 59                      | 1000-1250          |         |                   |
|                    |                              | 1<br>1<br>1        |         |                   |
| 1                  |                              |                    | Brown   | Natural<br>shade  |

| Indicato   | rs               |                      |       |       | Nor   | ms                   |         |         |       |         |
|--|------------------|----------------------|-------|-------|-------|----------------------|---------|---------|-------|---------|
| Basis weight, g/m  | 1 <sup>2</sup>   | 42 ±1                | 43 ±1 | 45 ±1 | 47 ±1 | 48 ± 1               | 48,8 ±1 | 52 ±1,5 | 55 ±3 | 58 ±0.5 |
| Corrugated Medi<br>(CMT <sub>30</sub> ),<br>N, min             | um Test          | 25                   |       |       | 3     | 5                    |         | 45      |       | 60      |
| Absolute burstino<br>kPa, min                                  | g strength,      | 8                    | 80 90 |       |       | 10                   | 0       | 125     |       |         |
| Tensile strength i<br>(machine direction<br>min.               |                  | 1,9                  |       |       | 2,2   |                      |         | 2,5     |       | 2,8     |
| Corrugated Crush<br>(CCT <sub>30</sub> ), kN/m, mi             |                  | 0,20 0,25            |       |       |       | 0,3                  | 0,30    |         |       |         |
| Cobb <sub>30</sub> , Cobb <sub>60</sub> ,<br>g/m², average for | sized<br>paper   | 130*                 |       |       |       |                      |         |         |       |         |
| two sides, max.  | unsized<br>paper |                      |       |       | No    | t applicab           | ole     |         |       |         |
| Moisture, %  |                  |                      |       |       |       | 7,5 ± 1,0            |         |         |       |         |
| Shade a  |                  |                      |       |       | 3     | 3,55+/-0,75<br>brown |         |         |       |         |
| Shade b  |                  | 15,0 +/-2,0<br>brown |       |       |       |                      |         |         |       |         |
| Reel diameter tol<br>mm  | lerance,         | +10/-30              |       |       |       |                      |         |         |       |         |
| Reel width tolera  | nce, mm          |                      |       |       |       | +/-1                 |         |         |       |         |

one per 10 reels

Amount of mill joins

<sup>\*</sup> A specific value is set by agreement with the client

<sup>&</sup>lt;sup>1</sup> Should be indicated in order specification

<sup>&</sup>lt;sup>2</sup> Shade can vary, confirm the shade based on product samples



# Fluting

### **Fluting Paper**



cost effectiveness



uniform winding density



web stability



wide range of applications



environmental friendliness

The use of lightweight corrugating

medium in the production of corrugated

cardboard is a modern trend and allows

reducing the specific consumption of components (in terms of a square meter

of cardboard) without compromising

structural strength.



**HS code:** 480519

### Applications:

- O for the production of corrugated cardboard
- universal packaging and wrapping material (for flowers, food and fragile products)
- O as a box filler
- O for the production of paper bags
- O in furniture production

| Reel width | Paper basis   | Reel diameter | Paper | Shade <sup>1</sup> |
|------------|---------------|---------------|-------|--------------------|
| (mm)       | weight (g/m²) | ı (mm)        |       |                    |
| 420-2500   | 60 – 100      | 1000-1250     |       |                    |
|            | I<br>I        | I<br>I        |       |                    |
|            | 1             | <br>          | Brown | Natural            |

### Norms

| Parameters  | 60<br>g/m2 | 70<br>g/m2 | 80<br>g/m2     | 90<br>g/m2 | 100<br>g/m2 |  |
|---|------------|------------|----------------|------------|-------------|--|
| Fibre mix   |            | Thermo     | mechanical pul | p -100%    |             |  |
| Substance, g/m²   | 60 ± 3     | 70 ± 3     | 80 ± 3         | 90 ± 3     | 100 ± 5     |  |
| Concoro Medium Test (CMT30) ,<br>with 15 mm wide tape, N, min                   | 70         | 90         | 120            | 140        | 160         |  |
| CMT30 index, N*m²/g, min  | 1,17       | 1,29       | 1,50           | 1,56       | 1,60        |  |
| Absolute Bursting Strength (BST),<br>kPa, min (ISO 2758)                        | 150        | 160        | 170            | 190        | 200         |  |
| BST index, kPa*m²/g, min (ISO 2758)   | 2,50       | 2,29       | 2,13           | 2,11       | 2,00        |  |
| Tensile Strength MD, kN/m, min  | 3,1        | 3,9        | 4,3            | 4,8        | 5,0         |  |
| Corrugated Crush Test (CCT30), kN/m, min  | 0,40       | 0,50       | 0,60           | 0,70       | 0,80        |  |
| One-sided water absorption (Cobb30), average for two sides of sized paper, g/m2 |            |            | 30-130*        |            |             |  |
| Moisture, %   |            |            | 7,0 ± 1,0      |            |             |  |
| Reel Diameter Tolerance, mm   | ± 20       |            |                |            |             |  |
| Reel Width Tolerance, mm  |            |            | ± 2            |            |             |  |
| Joints per Reel, max  |            |            | 2              |            |             |  |

<sup>\*</sup> A specific value is set by agreement with the buyer

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shade

<sup>&</sup>lt;sup>1</sup>The shade can vary, confirm the shade based on product samples

<sup>&</sup>lt;sup>2</sup>The estimate indicators for products from the expected composition of raw materials are given. Standard indicators need to be confirmed in the specification



# Corrugated case materials

Volga Liner and Volga Medium (launch in the second half of 2024 г.)



high strength



low water absorption



cost effectiveness



uniform winding density



web stability



high print quality



environmental friendliness

Guaranteed product quality of PM6 of Volga JSC at the level:

- O Liner 1 / Liner 2
- O Medium high performance 2



**HS code:** 480519

### Applications:

- O for the production of corrugated cardboard
- O packaging and wrapping paper
- O for the production of paper bags

| Reel width<br>(mm) | Basis weight (g/m²) | Reel diameter (mm) | Raw materials | Shade <sup>1</sup> |
|--------------------|---------------------|--------------------|---------------|--------------------|
| 420-2500           | 60 – 120            | 1000-1250          | Waste paper   |                    |
|                    | !<br>!<br>!         | !<br>              | TMP           |                    |
|                    | 1<br>1<br>1         | 1<br>1<br>1        | 1<br>1<br>1   | brown              |

| Parameters   | 65<br>g/m2 | 70<br>g/m2   | 80<br>g/m2            | 90<br>g/m2 | 100<br>g/m2 | 110<br>g/m2 | 120<br>g/m2 |  |  |
|--|------------|--|-----------------------|------------|-------------|-------------|-------------|--|--|
| Fibre mix  |            | Old Corrugated Containers 60-100% +<br>Thermomechanical pulp 0-40% |                       |            |             |             |             |  |  |
| Containerboard grade   |            |  | Corrugating<br>Medium |            |             |             | Liner       |  |  |
| Substance, g/m²  | 65 ± 3     | 70 ± 3   | 80 ± 3                | 90 ± 3     | 100 ± 5     | 110 ± 6     | 120 ± 6     |  |  |
| Short Span Compression test<br>SCT (cd), кN*m, min   |            |  | >1,55                 |            |             |             | >2,45       |  |  |
| SCT (cd) index, N*m/g, min   |            |  | ≥ 19,4                |            |             |             | ≥ 20,4      |  |  |
| Concoro Medium Test (CMT <sub>30</sub> ), with 15 mm wide tape, N, min                           |            |  | ≥ 110                 |            |             |             |             |  |  |
| CMT <sub>30</sub> index, N*m²/g, min   |            |  | ≥ 1,38                |            |             |             |             |  |  |
| Absolute Bursting Strength<br>(BST), kPa, min (ISO 2759)   |            |  |                       |            |             |             | ≥ 285       |  |  |
| BST index, kPa*m²/g, min (ISO 2759)  |            |  |                       |            |             |             | ≥ 2,38      |  |  |
| One-sided water absorption (Cobb $_{30}$ ), average for two sides of sized paper, g/m $^2$ , max |            |  | 50                    |            |             |             |             |  |  |
| Moisture, %  |            |  | 8                     |            |             |             |             |  |  |
| Solid content, %   |            |  | 13/3                  |            |             |             | 13/3        |  |  |
| Ash content, %   |            |  | 2-7                   |            |             |             | 2-7         |  |  |
| Reel Diameter Tolerance, mm  |            |  | ± 20                  |            |             |             |             |  |  |
| Reel Width Tolerance, mm   |            |  | ± 2                   |            |             |             |             |  |  |
| Joints per Reel, max   |            |  | 2                     |            |             |             |             |  |  |

<sup>&</sup>lt;sup>1</sup> Shade can vary, confirm the shade based on product samples



# Corrugated case materials

### Fluting and wrapping paper



cost effectiveness



uniform winding density



environmental friendliness



**HS code:** 480519

PM4 paper made of recycled pulp is a good alternative to more expensive corrugated case material and wrapping grade papers made of virgin fiber.

### Range of use:

- O for the production of corrugated cardboard
- O packaging and wrapping paper
- O as a basis for other types of paper

| Reel width<br>(mm) | Paper basis weight (g/m²) | Reel diameter (mm) | Raw<br>material | Paper Shade <sup>1</sup> |
|--------------------|---------------------------|--------------------|-----------------|--------------------------|
| 420-2340           | 80 – 200                  | 900-1200           | Recycled pulp   |                          |
|                    | I<br>I                    | I<br>I             | I<br>I          | brown                    |

### Fluting Paper

| Basis weight 1m², g/m2                                       | 80 ±5 | 90 ±5 | 100 ±5 | 112 ±6     | 125 ±6 | 140 ±8 | 160 ±11 |
|--|-------|-------|--------|------------|--------|--------|---------|
| Corrugating Medium Test (CMT30) on 15 mm wide strip, N, min  | -     | 70    | 75     | 110        | 125    | 130    | 150     |
| Absolute bursting strength, kPa, min.                        | 130   | 130   | 130    | 150        | 180    | 210    | 250     |
| Tensile strength in MD, kN/m, min.                           | 3,8   | 4,0   | 4,0    | 4,5        | 5,0    | 5,5    | 6,5     |
| Corrugated crush test (CCT30), kN/m, min.                    | 0,40  | 0,40  | 0,40   | 0,65       | 0,75   | 0,95   | 1,10    |
| 30-min Cobb test, average for two sides of sized paper, g/m² |       |       |        | 100        |        |        |         |
| Moisture, %  |       |       | 6      | ,0 +1,0/-2 | ,0     |        |         |
| Reel diameter tolerance, mm                                  |       |       |        | ± 20       |        |        |         |
| Reel width tolerance, mm                                     |       |       |        | ± 5        |        |        |         |

### Technical packaging paper

| <b>80</b><br>+4/-5 | <b>90</b><br>+4/-5 |  |          | <b>140</b> +4/-5    |                               | <b>175</b><br>+4/-5   | <b>180</b> +4/-5  | <b>200</b> +4/-5  |
|--------------------|--------------------|--|----------|---------------------|-------------------------------|---|---|---|
|                    |                    |  | 10       | 00                  |                               |   |   |   |
|                    |                    |  | 4,0      |                     |                               |   |   | 3,5   |
|                    |                    |  | 10       | 00                  |                               |   |   |   |
|                    |                    |  | 6,0 +1   | ,0/-2,0             |                               |   |   |   |
|                    |                    |  | ±3       | 20                  |                               |   |   |   |
|                    |                    |  | <u>+</u> | 3                   |                               |   |   |   |
|                    |                    |  |          | 4,0<br>10<br>6,0 +1 | +4/-5 +4/-5 +4/-5 +4/-5 +4/-5 | +4/-5 +4/-5 +4/-5 +4/-5 +4/-5 +4/-5 +4/-5 +4/-5  100  4,0  100  6,0 +1,0/-2,0  ± 20 | +4/-5 | +4/-5 |

<sup>&</sup>lt;sup>1</sup> Shade can vary, confirm the shade based on product samples



# Newsprint paper



100% virgin fiber



zero dusting



uniform winding density



web stability



high print quality<sup>1</sup>



wide range of applications



environmental friendliness

The use of 100% thermomechanical pulp (TMP) in paper production allows ma pro of fro



**HS code:** 480100

### **Applications:**

- O newspapers, magazines, tabloids, periodicals
- o advertising leaflets, booklets, catalogs
- O block calendars, price lists, checklists
- O forms, questionnaires, invoices, receipts, coupons, labels
- O instructions, guidance manuals,

| roducts that a<br>consumer pr | environmentally are not inferior roperties to paper recycled pulp. | in terms<br>per made | reference be  in textile inc | ooks<br>Iustry (for patte | erns) |
|-------------------------------|--|----------------------|------------------------------|---------------------------|-------|
| Brightness                    | Paper basis<br>weight (g/m²)                                       |                      | Paper :                      | Shade <sup>2</sup>        |       |
| ISO 59-61                     | 40 – 58  |                      |                              |                           |       |
| ISO 64<br>(made<br>to order)  |  |                      |                              |                           |       |
|                               |  | Standard             | Creamy                       | Salmon                    | Green |
|                               |  |                      |                              |                           |       |

| Parameters                                | 40 g/m2     | 42 g/m2                             | 42.5 g/m2   | 45 g/m2          | 48 g/m2         | 48.8 g/m2           | 52 g/m2     | 55 g/m2     | 58 g/m2     |
|---|-------------|-------------------------------------|-------------|------------------|-----------------|---------------------|-------------|-------------|-------------|
| Basis weight, g/m2                        | 40,0 +/-0,5 | 42,0 +/-0,5                         | 42,5 +/-0,5 | 45,0 +/-0,5      | 48,0 +/-0,5     | 48,8 +/-0,5         | 52,0 +/-0,5 | 55,0 +/-0,5 | 58,0 +/-0,5 |
| Composition                               |             | TMP - 100%                          |             |                  |                 |                     |             |             |             |
| Thickness, mm                             | max 0,069   | max 0,072                           | max 0,072   | max 0,077        | max 0,082       | max 0,083           | max 0,090   | max 0,095   | max 0,100   |
| Density, g/cm3                            |             | 0,60 +/-0,03                        |             |                  |                 |                     |             |             |             |
| Bulk, cm3/g                               |             | 1,69 +/-0,03                        |             |                  |                 |                     |             |             |             |
| Moisture, %                               |             |                                     |             |                  | 8,0 +/- 0,5     |                     |             |             |             |
| Absolute crosswise tearing resistance, mN | min 210     | min                                 | 220         | min 250          | mir             | ı 280               | min 290     | min 300     | min 310     |
| Breaking length in<br>MD, km              | min 4,8     | min 4,9                             | min 4,9     | min 5,0          | min 5,0 min 5,1 |                     | min 5,1     |             |             |
| Elongation, %                             | min 0,70    | min 0,70 min 0,75 min 0,75 min 0,80 |             |                  |                 |                     |             |             |             |
| Roughness<br>(Bendtsen), ml/min           |             |                                     | 100 +       | /- 20            |                 |                     |             | 120 +/- 20  |             |
| Porosity (Bendtsen),<br>ml/min            | max 550     | max                                 | 500         | max 450          | max             | < 400               |             | max 350     |             |
| Brightness, %, (R457<br>C)                |             |                                     |             |                  | 60 +/- 1        |                     |             |             |             |
| Opacity, %                                | min 89      | min 90                              | min 90      | min 91           | mi              | n 93                |             | min 94      |             |
| Shade a                                   |             |                                     |             | +/- 0,15<br>dard |                 | 1,20 +/-0,<br>cream |             |             |             |
| Shade b                                   |             |                                     |             | ·/- 0,5<br>idard |                 | 9,0 +/-1,<br>cream  |             |             |             |
| Reel diameter<br>tolerance, mm            |             |                                     |             |                  | +10/-30         |                     |             |             |             |
| Reel width tolerance,<br>mm               |             |                                     |             |                  | +/-1            |                     |             |             |             |
| Number of splices                         |             |                                     |             | or               | ne per 10 re    | els                 |             |             |             |

<sup>&</sup>lt;sup>1</sup> Cold Set Web Offset (CSWO)

<sup>&</sup>lt;sup>2</sup>The shade can vary, confirm the shade based on product samples



# Bulky newsprint paper



100% virgin fiber



zero dusting



uniform winding density



web stability



high print quality<sup>3</sup>



wide range of applications



environmental friendliness



HS code: 480261

# The use of 100% thermomechanical pulp (TMP) in paper production allows manufacturing environmentally friendly products that are not inferior in terms of consumer properties to paper made from cellulose or recycled pulp.

| Brightness                                | Paper basis weight (g/m²) | Paper Shade <sup>4</sup> |
|---|---------------------------|--------------------------|
| ISO 59-61<br>ISO 64<br>(made<br>to order) | 42 – 80                   |                          |

Standard

### Range of use:

Creamy

- O books, magazines, tabloids
- O advertising leaflets, booklets, catalogs
- O block calendars, checklists, price lists
- O forms, questionnaires, invoices, receipts, coupons, labels

Salmon

O instructions, guidance manuals, reference books

| Parameters                                | 42 g/m2         | 45 g/m2                             | 48.8 g/m2              | 52 g/m2    | 55 g/m2    | 60 g/m2             | 65 g/m2    | 80 g/m2    |
|---|-----------------|-------------------------------------|------------------------|------------|------------|---------------------|------------|------------|
| Composition                               | TMM - 100 %     |                                     |                        |            |            |                     |            |            |
| Basis weight, g/m2                        | 42,0 +/-1       | 45,0 +/- 1                          | 48,8 +/- 1             | 52,0 +/- 1 | 55,0 +/- 1 | 60,0 +/- 1          | 65,0 +/- 1 | 80,0 +/- 1 |
| Thickness, mm                             | min 0,100       | min 0,105                           | min 0,115              | min 0,120  | min 0,125  | min 0,140           | min 0,145  | min 0,185  |
| Density, g/cm3                            |                 | min 0,40                            |                        |            |            |                     |            |            |
| Bulk, cm3/g                               |                 | min<br>2,30 min 2,25                |                        |            |            |                     | min 2,30   |            |
| Moisture, %                               |                 | 8,0 +/- 1,0                         |                        |            |            |                     |            |            |
| Absolute crosswise tearing resistance, mN | min 260         | min 270                             | min 280                | min 290    | min 300    | min 350             | min 400    | min 400    |
| Breaking length in MD, km                 | min 5,50        |                                     |                        |            |            |                     |            |            |
| Elongation, %                             |                 |                                     |                        | mir        | n 1,0      |                     |            |            |
| Roughness (Bendtsen), ml/<br>min          | 1300 -          | 1300 +/-100 1400 +/-100 1500 +/-100 |                        |            |            |                     |            |            |
| Porosity (Bendtsen), ml/min               | max 400 max 300 |                                     |                        |            |            |                     |            |            |
| Whiteness, %                              | 60+/-1          |                                     |                        |            |            |                     |            |            |
| Opacity, %                                | min 90          | min 91                              | min 92                 | m<br>9     |            | min 94              | min 95     | min 95     |
| Shade a                                   |                 |                                     | -0,35 +/- 0<br>standar |            | / 1,       | 20 +/-0,25<br>cream |            |            |
| Shade b                                   |                 |                                     | 3,5 +/- 0<br>standar   |            |            | 9,0 +/-1,5<br>cream |            |            |
| Reel diameter tolerance, mm               |                 |                                     |                        | +10        | /-30       |                     |            |            |
| Reel width tolerance, mm                  |                 |                                     |                        | +,         | /-1        |                     |            |            |
| Number of splices                         |                 |                                     |                        | one per    | 10 reels   |                     |            |            |

<sup>&</sup>lt;sup>1</sup> Made to order

20 21

Green

<sup>&</sup>lt;sup>2</sup> Implicitly

<sup>&</sup>lt;sup>3</sup> Cold Set Web Offset (CSWO)

<sup>&</sup>lt;sup>4</sup> The shade can vary, confirm the shade based on product samples



Test method

# Exercise book cover paper



100% virgin fiber



zero flaking



uniform winding density



web stability



high print quality



environmental friendliness



The use of 100% thermomechanical pulp (TMP) in paper production allows manufacturing environmentally friendly products that are not inferior in terms of consumer properties to paper made from cellulose or recycled pulp.

### Range of use:

O for exercise book cover manufacture

### Opacity

minimum 95% Paper basis weight (g/m²) Paper Shade¹

Green Creamy Salmon

| Huicators  |            | NOTITIS |      | restilletilod |
|--|------------|---------|------|---------------|
| Fibre mix  | TMP - 100% |         |      |               |
| Paper weight 1 m², g   | 70±3       | 80±3    | 90±3 | ISO 536       |
| Breaking Length, MD, km, min.  |            | 5,0     |      | 150 102 ( 1   |
| Elongation, %, minimum   |            | 0,80    |      | ISO 1924-1    |
| Absolute crosswise tearing resistance, mN, minimum                                   |            | 350     |      | ISO 1974      |
| Opacity, %, minimum  |            | 95      |      | GOST 8874     |
| Moisture, %  |            | 7,0±1,0 |      | ISO 287       |
| Number of splices in a reel Less than<br>1 m in diameter<br>1 m and more in diameter |            | 1 2     |      | By eye        |
| Reel width tolerance, mm   |            | ±1,0    |      |               |
|  |            |         |      |               |

Norms

one per 10 reels

Amount of mill joins

Indicators

 $\sim$  23

<sup>&</sup>lt;sup>1</sup> Shade can vary, confirm the shade based on product samples

# **Customer service and supply chain management**

### Modern technology





Volga JSC is strongly focused on the development of the Customer service and Customer support system. Reaching a new level of rate and efficiency of interaction with Customers plays an important role in achieving a competitive position of the company. Continuous exchange of ideas is a source of customer service upgrading and Volga JSC products improving.

Since Volga JSC has reached a new stage of strategic development, increased productivity, expanded the product range and geography of supplies, in 2022, a supply chain management department was introduced in the Company. The tasks of the newly formed department are to implement the integrated Sales and Operations Planning (S&OP) process, optimize supply chains, harmonize the interaction and data exchange based on the best world practices.

Implementation of the Customer's personal account on the Volga Company's website has become one of the first steps to improve the interaction efficiency. The personal account allows Customers to automate the products receipt processes: place orders, explore the status of live orders, dates of pending shipments and other parameters of interaction with Volga JSC.



The technological progress at JSC Volga begins with the wood preparation shop. The spruce wood coming here is cut on slasher tables and crushed in chopping machines to produce technological chips

From the wood preparation shop, the technological chips are sent via an automatic conveyor line for cumulus storage to a specially designated site.

Since 2015 JSC Volga has been producing paper using a new technology from 100% thermomechanical pulp without cellulose. The thermomechanical pulp is produced in the TMP plant by two-stage grinding of steamed wood chips on disk mills-refiners.

To meet customers' requirements for the whiteness of newsprint paper, the whiteness of the thermomechanical pulp can be varied over a wide range (59-61% ISO), with consistently high mechanical strength.

After sorting, cleaning and deaeration, the whitened thermomechanical pulp is delivered from the TMP plant to the paper plant No. 3. The paper making equipment is used for casting, forming, pressing and dewatering the paper web.

Control and adjustment of the weight per square meter of paper, as well as humidity and bulkiness profile are performed automatically.





Volga JSC activities in the area of sustainable development and corporate social responsibility are based on best practices, international and Russian standards and principles.

### **Environmental Consciousness**

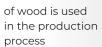
Volga JSC thinks of environmental protection activities as an integral part of its daily work. Production waste is used as a renewable energy source. At the end of the lifetime cycle, Company's products become a source of raw materials for recycling.

The Company has highest regard for the environmental characteristics of raw materials, works hard on the energy recovery from production waste, supports various environmental initiatives.

In its activities, Volga JSC is guided by the "3R Rule", in particular:

- Reduce the waste amount;
- Reuse secondary material resources as raw stuff;
- Recycle resources.





of water is reused





of thermomechanical pulp is used in paper

production





of waste is recycled



of emissions are caught in gas purifying plants

of industrial and storm wastewater are purified at 5-stage biological treatment plant



### **Sustainable Forestry**

Volga JSC products are manufactured from the wood grown in the forests managed in an ecologically and socially responsible way. Such management is carried out in order to maintain and improve the socioeconomic well-being of the local population and respect their rights, preserve the biological diversity, water resources, soils, as well as unique ecosystems and landscapes.



### Social accountability

Volga JSC pursues charitable and sponsorship activities, providing assistance to educational and medical institutions, creative and sports teams within its footprint. Conventional charity events that are held on the New Year, Day for the Elderly, Decade of Disabled Persons, focused on caring for employees with disabilities and drawing public attention to their problems.



### **Development Strategy**



The Company's strategic vision involves diversification of its product portfolio, markets, distribution channels and raw materials. The strategy includes modernization of the entire enterprise, starting with production facilities and ending with logistics and IT infrastructure. One of the mainstays is to maintain competitiveness in the producing costs through full provision of the enterprise with own electricity now and in the future. All newly created and upgraded facilities will meet the latest requirements in accordance with the best available technologies.

### Stage I. 2021–2024

Ongoing



**Volume** +170 ths +170 ths. tons/year.



### **Product Portfolio** Liner (65-120 g/m2) Container board (

42-100 g/m2)



Total output 500 ths. tons/year

- Launching PM6 for the manufacture of containerboard (+140 ths. tons)
- Start of MM-500 recycled pulp line for PM6 and increase in PM5 and PM8 capacity (+30 ths. tons)
- Launch of a condensing steam turbine in the power complex (NiGRES)
- Electric power supply to Stages 1-3

### Stage II. 2025 - 2026



Volume Without

Without increase in output



**Product Portfolio** Topliner (100-120 g/m2)



**Total output** 500 ths. tons/year. • Installation of the top forming fabric on PM6 - modernization of equipment for Topliner manufacture

### Stage III. 2024 - 2028



+80 ths. tons/year.

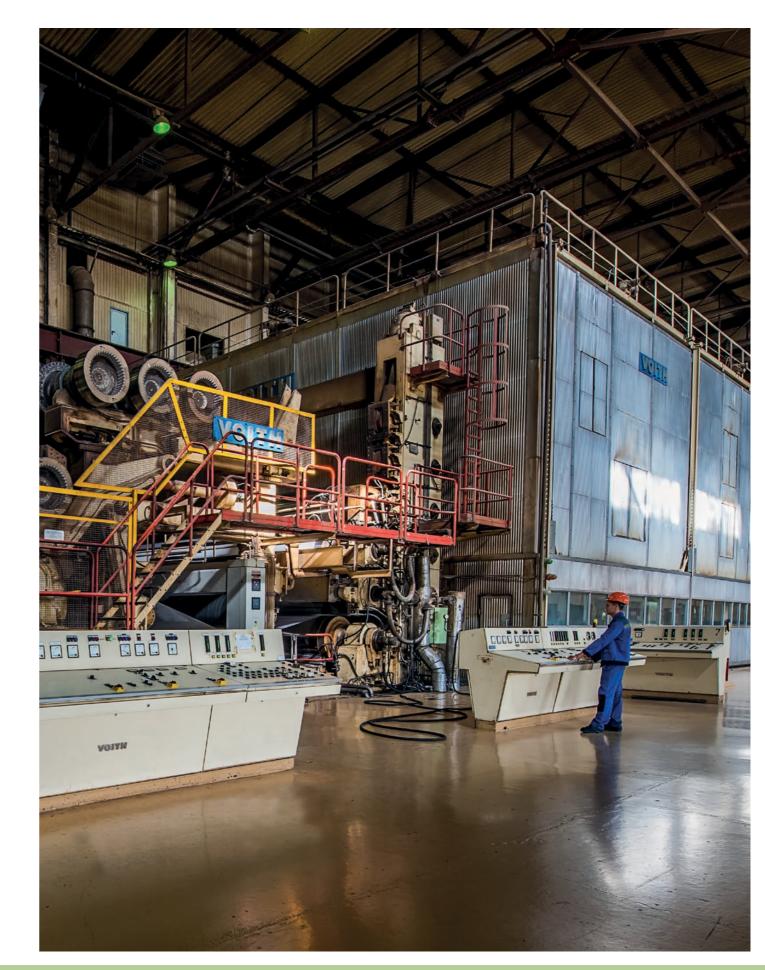


**Product Portfolio** Interliner (42-59 g/m2) Fluting (60-100 g/m2) Newsprint (42-58 g/m2)



**Total output** 580 ths. tons/year.

- Increasing the speed of PM5 and PM8 for the manufacture of all Volga JSC product types
- Modernization of TMP-180 workshop increase in the volume of raw materials for the manufacture of paper and containerboard



### **Transportation and Storage of Products**



### Loading by paper type



All paper types\* 20 tons

> Bulky paper 16 tons

### 40' container (High Cube)



All paper types\* 25-26 tons

> Bulky paper 18-22 tons

### Rail car



All paper types\* 59-62 tons

Bulky paper 43-45 tons

### Storage and transport rules



non-slippery base.

Paper reels should be stored in sheltered warehouses protected from precipitation and soil moisture, with a solid, smooth,



Paper reels should be transported packaged by any means of transport, in covered vehicles

in accordance with the transportspecific rules of cargo transportation.



Unloading operations should be carried out by trained personnel, using mechanized means(fork-

lifts) equipped with a reel clamps and with the pressure recommended by the manufacturer (specified on the reel label).



For stack stability and paper integrity, the reels should be placed at a height of no more than 6 meters



The reels should be stacked reel-onreel, their vertical displacement by more than 5% of the lower reel diameter is prohibited.



Putting reels of a larger diameter on reels of a smaller diameter is prohibited if the diameter difference is more than 5% with respect to the smaller reel.

### Recommended storage and processing conditions for 100% TMP paper

Storage Processing In the warm season In the cold season Temperature Temperature Temperature -15 - +25°C -19 - +23°C -18 - +22°C Moisture Moisture Moisture 45 - 55% 40 - 75% 50 - 60%

After cold storage, it is necessary to adapt the paper to the processing conditions for up to two days.

Long-term storage of paper in conditions that do not comply with the recommendations may lead to a weaker performance compared to the one stated in the specification. We recommend using delivered paper within 60 days from the date of receipt.



### Recommended pressure in fork-lift clamps and reel transfer advice

| NO Deal weight |                   | Auramo  |     |                    |    | Cascade             |     |                    |    |
|----------------|-------------------|---------|-----|--------------------|----|---------------------|-----|--------------------|----|
| Nº             | Reel weight       | kgf/cm² | bar | kN/cm <sup>2</sup> | kN | kgf/cm <sup>2</sup> | bar | kN/cm <sup>2</sup> | kN |
| 1              | up to 500 kg      | 24      | 23  | 23                 | 10 | 28                  | 27  | 27                 | 12 |
| 2              | up to 1000 kg     | 36      | 35  | 35                 | 17 | 40                  | 39  | 39                 | 18 |
| 3              | up to 1400 kg     | 46      | 45  | 45                 | 23 | 55                  | 53  | 53                 | 25 |
| 4              | More than 1400 kg | 46      | 45  | 45                 | 23 | 55                  | 53  | 53                 | 25 |

### Reel transfer

| Reel<br>diameter | Format<br>up to 96 cm | Format<br>up to 105 cm | Format<br>up to 126 cm | Format<br>126 cm and more |
|------------------|-----------------------|------------------------|------------------------|---------------------------|
| 100-105 cm       | by 2 reels            | by 2 reels             | by 2 reels             | by 1 reel                 |
| 106.7-115 cm     | by 2 reels            | by 2 reels             | by 1 reel              | by 1 reel                 |
| 125 cm           | by 2 reels            | by 1 reel              | by 1 reel              | by 1 reel                 |

<sup>\*</sup> Except for bulky paper

### **Certificates and Diplomas**







JSC Volga is certified to ISO 9001:2015



"100 Best Goods of Russia-2020" competition (Low-weight newsprint) laureate diploma



"100 Best Goods of Russia-2023" competition (Packaging paper) laureate diploma



"100 Best Goods of Russia-2023" competition (Newsprint) diploma winner



"100 Best Goods of Russia-2020" competition (Liner board) diploma winner



"100 Best Goods of Russia-2020" competition (Bulk paper) diploma winner



"100 Best Goods of Russia-2023" competition (Packaging paper) diploma winner



Conclusion on the laboratory measurements state



Certificate of Conformity for corrugating paper

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Certificate of Conformity for Paper for liner board



Certificate of Conformity for lowweight paper



Certificate of Conformity for newsprint paper (GOST 6445-74)

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