

**COMPANY STANDARD\*****SVEZA TOY BIRCH PLYWOOD  
Technical Specifications****STO 52654419-005-2024**

Saint Petersburg  
2024

\* In case of discrepancies, the Russian version of the organization's standard is to be considered as priority. / В случае возникновения разночтений приоритетной является версия стандарта организации на русском языке

## Foreword

Development purposes and objectives, as well as the use of standards of organizations in the Russian Federation are established by Federal Law of December 27, 2002 No. 184-FZ «*On Technical Regulation*» and Federal Law of June 29, 2015, No. 162-FZ «*On Standardization in the Russian Federation*».

Development and presentation rules are specified by GOST R 1.0-2012 «*Standardization in the Russian Federation. Basic provisions*» and GOST R 1.4-2004 «*Standardization in the Russian Federation. Standards of organizations. General*», taking into account GOST R 1.5-2012 «*Standardization in Russian Federation. National standards. Rules of structure, drafting, presentation and indication*».

This standard may only be used for work with the written consent of LLC SVEZA-Les.

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**COMPANY STANDARD**

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**SVEZA TOY BIRCH PLYWOOD  
Technical Specifications**

**RUS: Фанера SVEZA TOY березовая  
Технические условия**

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**Date of introduction «14» April 2024**

**1 SCOPE OF APPLICATION**

This company standard (hereinafter referred to as the Standard) applies to SVEZA TOY birch plywood (hereinafter SVEZA TOY plywood) that is used as a base material to manufacture souvenirs, toys and children's furniture, both as finished products and as their components.

SVEZA TOY plywood may be used as a base material to manufacture parts and components of furniture, including children's furniture.

**2 NORMATIVE REFERENCES**

This Standard includes normative references to the following standards:

GOST 12.4.011 Occupational safety standards system. Means of protection. General requirements and classification

GOST 427-75 Measuring metal rules. Basic parameters and dimensions. Specifications

GOST 2140 Visible defects of wood. Classification, terms and definitions, methods of measurement

GOST 3749 Checking 90° squares. Specifications

GOST 6507-90 Micrometers. Specifications

GOST 7016 Products of wood and wood materials. Roughness parameters

GOST 7502 Measuring metal tapes. Specifications

GOST 8925 Flat clearance gauges for machine retaining devices. Design and sizes

GOST 9620 Laminated glued wood. Sampling and general requirements in testing

GOST 9621 Laminated glued wood. Methods for determination of physical properties

GOST 9624 Laminated glued wood. Method for determination of shear strength

GOST 9625 Laminated glued wood. Method for determination of ultimate strength and modulus of elasticity in static bending

GOST 11358 Dial-type thickness gauges and dial-type wall thickness gauges graduated in 0.01 and 0.1 mm. Specifications

GOST 15612 Products from wood and wood materials. Methods for determination of roughness parameters

GOST 27678 Wood-based panels and plywood. Perforator method for determination of formaldehyde content

GOST 30255 Furniture, timber and polymers. The method for determination of formaldehyde and other volatile chemicals in the air of climatic chambers

GOST 30427 Plywood for general use. Classification of veneer surfaces by appearance

GOST 32155 Wood-based panels and plywood. Determination of formaldehyde release by the gas analysis method

GOST R 50779.12-2021 Statistical methods. Statistical quality control. Item random sampling methods

GOST R 59123-2020 Occupational safety standards system. Personal protective equipment. General requirements and classification

Note: While using this standard, it is advisable to check the validity of the standards referenced against the National Standards Reference Index.

### 3 CLASSIFICATION AND DIMENSIONS

3.1 Depending on the water resistance degree of glue bond and conditions of use, SVEZA TOY plywood is divided into the following types:

- INT/FK – water-resistant birch plywood glued using urea-formaldehyde adhesives and intended for indoor use;
- EXT/FSF – birch plywood with increased water resistance of the glue bond, glued using phenol-formaldehyde adhesives, and intended for indoor and outdoor use.

Note: SVEZA TOY plywood of INT/FK type belongs to INT formaldehyde emission group and SVEZA TOY plywood of the EXT/FSF type – to EXT formaldehyde emission group.

3.2 Based on its surface appearance, SVEZA TOY plywood is divided into the following grades: B, BB, CP, C (when designated by Latin letters) and I, II, III, IV (when designated by Roman numerals).

A grade designation includes both Latin letters and Roman numerals. Prefix T is added before the grade designation.

3.3 In terms of surface treatment, SVEZA TOY plywood is manufactured with both sides sanded – S2S.

Note: Sanding belts with a grain size of P80 - P100 microns are used for sanding plywood.

#### 3.4 Dimensions

3.4.1 Length and width of SVEZA TOY plywood panels must be as shown in Table 1 below.

Table 1

In millimeters

Plywood panel length (width)	Tolerances
1,220, 1,250	$\pm 3.0$
1,500, 1,525	$\pm 4.0$
2,440, 2,500	$\pm 4.0$
<b>Notes:</b> 1. SVEZA TOY plywood may be manufactured with other dimensions and tolerances by agreement between the manufacturer and the customer. 2. SVEZA TOY plywood panel length is measured along the grain direction of the face veneers	

3.4.2 Thickness and number of plies of SVEZA TOY plywood must be as shown in Table 2.

Table 2

Nominal thickness of plywood, mm	Minimum thickness, mm	Maximum thickness, mm	Thickness tolerance, mm	Thickness tolerance within one panel, max mm	Number of plies, min.
3.0	2.8	3.2	±0.2	0.2	3
4.0	3.8	4.2			3
5.0	4.8	5.2			4
6.0	5.7	6.3	±0.3		5
6.5	6.2	6.8			5
8.0	7.7	8.3			7
9.0	8.7	9.3			7
10.0	9.7	10.3			7
12.0	11.7	12.3			9
12.7	12.4	13.0			9
14.9	14.6	15.2			11
15.0	14.7	15.3			11
18.0	17.5	18.5	±0.5		13
21.0	20.5	21.5			15
24.0	23.5	24.5			17
27.0	26.5	27.5			19
30.0	29.5	30.5			21
Note: It is allowed to manufacture SVEZA TOY plywood of other thicknesses, number of plies, and tolerances by agreement between the manufacturer and the customer.					

3.4.3 SVEZA TOY plywood panels should be cut at a right angle.

Tolerance for squareness must not exceed 2 mm per 1 m of the panel edge length when controlled according to 6.4.1.

Difference in the diagonal lengths must not exceed 2 mm per 1 m of the panel edge length when controlled according to 6.4.2

3.4.4 Tolerance for straightness of edges must not exceed 2 mm per 1 m of panel length.

3.5 The reference designation for SVEZA TOY plywood should include the following information:

- name of the product with the wood species indication;
- type;
- combination of face veneer grades both by Latin letters and Roman numerals;
- emission class;
- surface treatment type;
- dimensions;
- reference to this Standard.

Example of a reference designation for SVEZA TOY birch plywood, of EXT type, with combination of face veneer grades BB/BB (II/II), E1 emission class, sanded on both sides, 2,440 mm long, 1,220 mm wide and 12 mm thick:

*Фанера SVEZA TOY березовая / Birch Plywood SVEZA TOY,  
EXT / ФСФ, Т BB/BB (II/II), E1, S2S / III2, 2440 x 1220 x 12  
СТО 52654419-005-2024*

Example of a reference designation for SVEZA TOY birch plywood, of INT type, with combination of face veneer grades BB/BB (II/II), E1 emission class, sanded on both sides, 2,440 mm long, 1,220 mm wide and 12 mm thick:

*Фанера SVEZA TOY березовая / Birch Plywood SVEZA TOY,  
INT / ФК, Т BB/BB (II/II), E1, S2S / III2, 2440 x 1220 x 12  
СТО 52654419-005-2024*

## 4 TECHNICAL REQUIREMENTS

### 4.1 Characteristics

4.1.1 Birch veneer of different thickness is used to produce outer and inner plies of SVEZA TOY plywood.

The minimum thickness of outer plies after sanding should be at least half of their initial thickness.

4.1.2 No wood and machining defects that exceed the limits specified in Appendix A are permitted in outer plies of SVEZA TOY plywood. The terms and definitions of wood and machining defects are according to GOST 30427 and Appendix B.

4.1.3 Depending on the outer plies quality, SVEZA TOY plywood is produced in any combinations of grades listed in par. 3.2 of this Standard.

4.2 The formaldehyde content in and the formaldehyde release from SVEZA TOY plywood in the indoor air should correspond to the values specified in Table 3.

Table 3

Emission class	Formaldehyde content	Formaldehyde release		
	Perforator method, mg/100 g of oven-dry weight of plywood	Chamber method, mg/m <sup>3</sup> of air	Chamber method, ASTM E1333, ppm	Gas analysis method, mg/m <sup>2</sup> *h
E 0.5	Up to 4.0 inclusive	Up to 0.01 inclusive	Up to 0.04*	Up to 1.3 inclusive
E1	Over 4.0 and up to 8.0 inclusive	Over 0.01 and up to 0.124 inclusive	Up to 0.04*	Over 1.3 and up to 1.5 inclusive or less than 3.5 within 3 days after production
Note: * - to be confirmed by providing a CARB Executive Order				

4.3 The physical and mechanical properties of SVEZA TOY plywood are given in Table 4.

Table 4

Item	Thickness, mm	Value of physical and mechanical properties for categories	
		INT / ΦK	EXT / ΦCΦ
1 Moisture content, % not more than	3.0 – 30.0	10	
2 Ultimate shear strength along bondline, MPa, not less than	3.0 – 30.0	1.0	
Item	Thickness, mm	Value of physical and mechanical properties for categories	
		INT / ΦK	EXT / ΦCΦ
3 Ultimate strength in static bending: - parallel to grain of outer plies, MPa, not less than - perpendicular to grain of outer plies, MPa, not less than	9.0 – 30.0	45	60
		30	30



4 Modulus of elasticity in static bending: - parallel to grain, MPa, not less than - perpendicular to grain, MPa, not less than	9.0 – 30.0	5,000 3,000	6,000 3,000
5 Ultimate tensile strength perpendicular to board plane, MPa, not less than	3.0 – 30.0	1.2	
Notes: 1. SVEZA TOY plywood shipped from the manufacturer’s warehouse should have the moisture content values specified above. 2. INT / ΦK category SVEZA TOY plywood is tested for shear strength along bondline after soaking the test pieces in water at (20 ± 3) °C for 24 hours. 3. EXT / ΦCΦ birch plywood is prepared for testing using one of the following methods: 3.1 boiling in water for 1 hour; 3.2 boiling in water for 6 hours; 3.3 boiling in water for 4 hours, drying in a ventilated cabinet at (60 ± 3) °C for (16-20) hours, second boiling in water for 4 hours, cooling in water at (20 ± 3) °C for 1 hour; 3.4 boiling for (72 ± 1) hours, cooling in water at (20 ± 3) °C for 1 hour: quarterly; 3.5 soaking in water at (20 ± 3) °C for 24 hours: quarterly. Methods 3.3, 3.4, 3.5 are used to prepare EXT / ΦCΦ category birch plywood for testing when new resins are tested. The preparation method for the test pieces is selected as agreed upon between the manufacturer and the customer. 4. The test for determining the shear strength along bondline is performed in different bondlines as agreed upon between the manufacturer and the customer. The wood failure percentage is not determined.			

4.4 SVEZA TOY plywood volume is specified in cubic metres. The volume of one panel is calculated without rounding. The volume of a SVEZA TOY plywood pack and batch is calculated to an accuracy of  $0.001 \text{ m}^3$ . The area of a SVEZA TOY plywood panel is calculated to an accuracy of  $0.01 \text{ m}^2$ , the area of panels in a batch – to an accuracy of  $0.5 \text{ m}^2$ .

4.5 Marking is applied by using an indelible paint onto the edge of each panel of birch plywood

The marking applied automatically shall contain the following information:

- manufacturer (number or name);
- type;
- thickness.
- grade;
- shift and/or sorter number;
- date and/or time of manufacture.

The marking applied manually (stamp) should include the following information:

- manufacturer (number);
- shift.

The manual marking (stamp) is applied at the corner of the longitudinal or transverse edge

It is allowed to apply one stamp on (1-3) panels on birch plywood with thickness of 3 to 9 mm.

Marking is applied in the following colors:

- for plywood of INT/ΦK type - in green or black
- for plywood of EXT/ΦCΦ type – in purple or black.

By agreement between the manufacturer and the customer, it is allowed:

- not to mark birch plywood panels;
- to add additional information to the mandatory marking.

No ink/traces of marking are allowed on the panel's surface (face veneers).

#### 4.6 Stacking of SVEZA TOY plywood

SVEZA TOY plywood panels should be stacked in packs of 400, 600 and 900 mm high sorted by grade, size and thickness.

As agreed upon between the manufacturer and the customer, SVEZA TOY plywood panels may be stacked in packs of other heights.

SVEZA TOY plywood panels in a pack should be stacked so that their grain directions coincide.

SVEZA TOY plywood panels in a pack should be stacked so that the higher grades face upward.

#### 4.7 Packaging and marking of ready for shipment SVEZA TOY plywood packs

4.7.1 Packs of SVEZA TOY plywood should have proper packaging to ensure its integrity and prevent damage during transportation.

The main methods and types of packaging are regulated by SVEZA-Les LLC. As agreed upon between the manufacturer and the customer, there may be used other methods and types of packaging for SVEZA TOY plywood.

4.7.2 The marking to packaged packs of SVEZA TOY plywood is applied in the form of labels. The text is written in the Russian and/or English language and the labels are placed parallelly or perpendicularly on two sides of the packaging. The text of both labels contains the same information:

- trademark;
- product name – SVEZA TOY Birch plywood;
- sizes and thickness of SVEZA TOY plywood and thickness tolerances (if required);
- SVEZA TOY plywood grade according to Appendix C;
- SVEZA TOY plywood category (INT / ΦK) or (EXT);
- surface machining of SVEZA TOY plywood;
- panels per pack;
- shift;
- SVEZA TOY plywood date of production;
- emission class;
- order No. under Special Terms and Conditions (to be applied as agreed upon between the manufacturer and the customer);
- the regulatory technical document based on which SVEZA TOY plywood is produced;
- manufacturer name and address;

- standard compliance mark;
- certification markings;
- pictorial marking for handling of goods: “Keep dry” and “Use no hooks”;
- barcode if a data collection terminal (scanner) is available.

For convenience in warehouse operations additional marking may be applied in the form of a label or using a stencil.

## 5 ACCEPTANCE RULES

5.1 SVEZA TOY plywood is accepted in batches.

A batch is a certain number of SVEZA TOY plywood panels of the same grade and size.

One document should be issued for a batch, which contains the following information:

- trademark;
- manufacturer name and address;
- designation of SVEZA TOY plywood;
- batch size;
- the regulatory technical document based on which SVEZA TOY plywood is produced.

5.2 SVEZA TOY plywood panels quality and sizes are checked by selective sampling. The selective check involves random sampling of SVEZA TOY plywood panels according to GOST 18321 in the number specified in Table 5.

Table 5

Batch size	Controlled value under paragraphs				In panels
	3.4.1; 3.4.2; 3.4.3; 3.4.4		4.1.2		
	Sample size	Acceptance number	Sample size	Acceptance number	
Up to 500	8	1	13	1	
501 to 1,200	13	1	20	2	
1,201 to 3,200	13	1	32	3	
3,201 to 10,000	20	2	32	3	

5.3 Moisture content, ultimate shear strength along bondline, ultimate strength in static bending parallel and perpendicular to grain of outer plies, and modulus of elasticity in static bending parallel and perpendicular to grain of outer plies should be monitored for each thickness and number of plies of SVEZA TOY plywood at least once a month.

5.4 The control of the formaldehyde release involves selection of one panel of SVEZA TOY plywood from any size sample.

The formaldehyde release is controlled at least once every 7 days by a gas analysis method for each formaldehyde emission group.

The formaldehyde release is controlled using the small-scale chamber method according to ASTM D6007 in an independent accredited laboratory on an annual basis in accordance with the CARB ATCM and EPA TSCA Title VI requirements. The in-process monitoring of the formaldehyde emission for every plywood batch is performed through a correlation comparison of the values obtained in a third-party laboratory using the small-scale chamber method with the respective value obtained by the gas analysis method in the testing laboratories that granted approval for the SVEZA TOY plywood batch in question.

5.5 A batch is considered compliant with the requirements of this Standard and is accepted if in the samples:

- the number of SVEZA TOY plywood panels non-compliant with the requirements in terms of sizes, out of square length, straightness, wood and machining defects is less than or equal to the acceptance number specified in Table 5;
- no panels of SVEZA TOY plywood have any blisters, delamination or bark pockets;
- the values of physical and mechanical properties correspond to the values specified in Table 4;
- the formaldehyde release values correspond to the standard values specified in Table 3.

## 6 CONTROL METHODS

6.1 Sampling is according to GOST 9620, GOST 27678, GOST 32155, GOST 30255, [1] - [2], [6].

6.2 The SVEZA TOY plywood length and width are measured to a tolerance of 1 mm at two points parallel to the edges at least 100 mm from the edges using a metal measuring tape in accordance with GOST 7502. The actual panel length (width) is the arithmetic mean of two measurement results.

6.3 The thickness of SVEZA TOY plywood is measured at a distance of at least 25 mm from the edges in the middle of each side of a panel.

The actual panel thickness is the arithmetic mean of four measurement results.

The following instruments are used to measure thickness:

- a thickness gauge according to GOST 11358 graduated not more than in 0.1 mm;
- a micrometer according to GOST 6507 graduated not more than in 0.1 mm;

The thickness variation in one panel of SVEZA TOY plywood is defined as difference between the maximum and the minimum thickness values after four measurements.

6.4 Out of square length of SVEZA TOY plywood panel

6.4.1 The out-of-straightness of SVEZA OVERLAY plywood panel is measured in accordance with GOST 30427. It is measured using a try square in accordance

with GOST 3749 and determined by measuring the maximum deviation of the panel edges from the try square surface using a metal ruler in accordance with GOST 427 to a tolerance of 1 mm.

6.4.2 It is permitted to determine the out of square length based on the difference of the lengths of the panel diagonals measured using a metal measuring tape graduated in 1 mm in accordance with GOST 7502.

6.5 The deviation from straightness of SVEZA TOY plywood panel edges is determined by measuring the maximum gap between the panel edge and the edge of the metal ruler using a gauge in accordance with GOST 8925 to a tolerance of 0.2 mm.

## 6.6 Warp

6.6.1 The warp of SVEZA TOY birch plywood 1,500 mm and 1,525 mm long with B and BB grade combinations of the outer plies veneer is determined on a horizontal table whose dimensions are not smaller than the length and width of the plywood panel.

First, W or P warp shape of the panel is visually evaluated after placing the panel on the horizontal table.

6.6.1.1 SVEZA TOY birch plywood 1,500 mm and 1,525 mm long with B and BB grade combinations of the outer plies veneer and W warp shape should be pressed tightly to and fixed on the horizontal table at points 1, 2 and 3. The measurement should be taken at point 4 using a measuring metal ruler according to GOST 427 or a measuring metal tape according to GOST 7502 as shown in Figure 1.

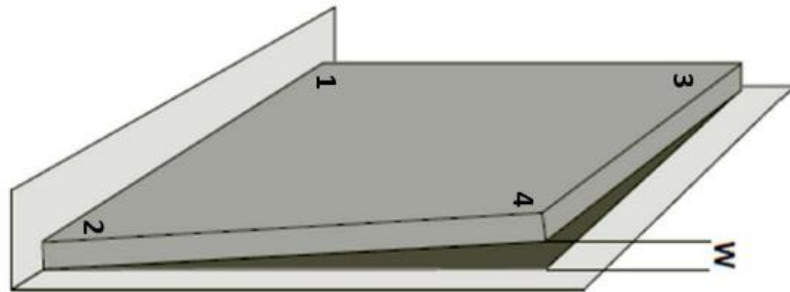


Fig. 1

6.6.1.2 SVEZA TOY birch plywood 1500 mm and 1525 mm long with B and BB grade combinations of the outer plies veneer and P warp shape should be fixed on the table at points 1 and 2. The measurement should be taken at point 3 using a measuring metal ruler according to GOST 427 or a measuring metal tape according to GOST 7502 as shown in Figure 2.



Fig. 2

6.6.1.3 The warp tolerances by shape for SVEZA TOY birch plywood 1,500 mm and 1,525 mm long with B and BB grade combinations of the outer plies veneer are specified in Table 6.

T a b l e 6

Warp shape	Nominal plywood thickness, mm	Distance from the reference plane to the panel surface, not more than, mm
		For a length of 1,500 mm; 1,525 mm
P / W	$\leq 6.5$	not considered
P	6.5 to 15	12
P	$>15$	7.5
W	$> 6.5$	15

6.6.2 For the SVEZA TOY plywood with the characteristics other than specified in par. 6.6.1 – according to GOST 30427.

6.7 The moisture content is according to GOST 9621, [3].

6.8 The ultimate shear strength along bondline is according to GOST 9624, [4].

6.9 The ultimate strength and modulus of elasticity in static bending are according to GOST 9625, [5].

6.10 The formaldehyde content is according to GOST 27678 (the said method is used as the reference method), formaldehyde release in the environment is according to GOST 30255, GOST 32155, and [1].

6.11 The ultimate tensile strength perpendicular to board plane is according to [6].

6.12 The surface roughness is according to GOST 15612.

6.13 Measurement of wood and machining defects is according to GOST 30427 and GOST 2140.

## 7 TRANSPORTATION AND STORAGE

7.1 Birch plywood should be transported in fully enclosed vehicles in accordance with the rules for carriage of goods by the respective mode of transport.

The transportation conditions should prevent any increase of the SVEZA DRAWER plywood moisture content that may result in changes of geometric, physical, qualitative characteristics of the plywood and emission class.

FK birch plywood of 1,500 mm and 1,525 mm length with combination of external layers grades: B, BB and warping requirements as specified in item 6.6 should

be transported only in a horizontal position and in a special packing preventing warping.

In case of non-compliance with this requirement (vertical transportation in order to increase the amount of plywood to be transported, i.e. putting bundle on edge or without special packing), the manufacturer guarantees warping not more than 15 mm per 1 m of the panels' diagonal length for plywood with the thickness over 6.5 mm. On plywood up to 6.5 mm thick, any degree of warping is acceptable.

#### **7.2 Storage of SVEZA TOY plywood**

SVEZA TOY plywood in an appropriate packaging should be stacked flat on a level surface on pallets or wooden battens indoors at a temperature of minus 40 °C to plus 50 °C and relative humidity of not more than 80%.

### **8 MANUFACTURER'S WARRANTY**

The manufacturer guarantees that SVEZA TOY plywood quality complies with requirements of this Standard provided that the transportation and storage conditions are met.

The guaranteed shelf life of SVEZA TOY plywood of INT /  $\Phi$ K category is 3 years, EXT category is 5 years from the day of receipt by the customer.

When SVEZA TOY plywood is intended for further processing or treatment, it is recommended that the manufacturer should be contacted to specify the plywood properties and specifications.

### **9 SAFETY REQUIREMENTS AND ENVIRONMENTAL PROTECTION**

9.1 The content of hazardous chemicals released in the air of residential premises and public buildings when items made of SVEZA TOY plywood are used should not exceed the values specified by the requirements of [8], [9].

9.2 The compliance with the requirements of [10] and [12] to items made with the use of SVEZA TOY plywood is ensured by the manufacturers of those items through application of the appropriate technological solutions and protective coatings.

9.3 SVEZA TOY plywood should be produced with the use of the materials and components permitted for use by the national sanitary and epidemiological supervision authorities.

9.4 The personnel engaged in SVEZA TOY plywood production should be at least 18 years old and have no medical contraindications. Medical examinations are conducted in accordance with the effective orders of the Ministry of Health of the Russian Federation.

9.5 The personnel engaged in SVEZA TOY plywood production should be provided with personal protective equipment according to the applicable regulations in compliance with GOST 12.4.011.

9.6 Specific activity of Cesium 137 in SVEZA TOY plywood should not exceed the hygiene standards specified by the requirements of [11].

9.7 SVEZA TOY standard plywood does not contain any raw materials, materials and components classified as hazardous waste.

9.8 SVEZA TOY plywood usually has a long service life and there are several disposal methods used. The disposal method for SVEZA TOY plywood should be selected taking into account the disposal requirements established by the legislation of different countries.



APPENDIX A  
(mandatory)

**Limits for wood and machining defects according to GOST 30427 for outer plies of SVEZA TOY plywood**

The limits for wood and machining defects of outer plies of SVEZA TOY plywood are specified in Table A.1.

Table 1

WOOD AND MACHINING DEFECTS	B (I)	BB (II)	CP (III)	C (IV)
1. Pin knots	permitted			
2. Sound intergrown knots, light and dark	permitted up to 15 mm in diameter with a check of up to 0.5 mm in the maximum number of 5 per m <sup>2</sup>	permitted up to 25 mm in diameter with a check of up to 1 mm in the maximum number of 10 per m <sup>2</sup>	permitted with a check of up to 1 mm wide	permitted
3. Partially intergrown knots	permitted within the limits specified in par. 4 of this Ap- pendix, up to 6 mm in diameter in the maximum number of 3 per m <sup>2</sup>		permitted within the limits for intergrown knots up to 15 mm in diameter in the maximum number of 10 per m <sup>2</sup>	permitted up to 40 mm in diameter without quantity restrictions
4. Non-adhering knots, fall- ing out knots, knot holes (without bark inclusion)	permitted within the limits for intergrown knots up to 6 mm in diameter in the max- imum number of 3 per m <sup>2</sup>	permitted within the limits for intergrown knots up to 6 mm in diameter in the max- imum number of 6 per m <sup>2</sup>	permitted up to 6 mm in diameter without quantity restrictions	permitted up to 40 mm in diameter without quantity restrictions (permitted bark inclusion at knots up to 5 mm wide)
5. Small checks	permitted up to 200 mm long in the maximum num- ber of 5 per metre of the	permitted up to 300 mm long in the maximum num- ber of 5 per metre of the	permitted at the edges and in the middle	permitted

WOOD AND MACHINING DEFECTS	B (I)	BB (II)	CP (III)	C (IV)
	panel width	panel width		
6. Large checks, open joint of jointed veneer	not permitted	permitted of a length of up to 250 mm, width of up to 2 mm in the maximum number of 3 per metre of the panel width	permitted of a length of up to 600 mm, width of up to 2 mm in the maximum number of 2 per metre of the panel width + permitted of a length of up to 600 mm, width of up to 5 mm provided that they are repaired with a filler	permitted of a length of up to 800 mm, width of up to 10 mm, without quantity restrictions
7. Irregularities in wood structure (sloping grain, curly grain, swirl, small knots from dormant buds)	permitted			
8. Defects of wood structure (intergrown inbark, light and dark)	only light inbark is permitted, dark inbark is permitted within the size range and number limits for non-adhering knots	light inbark is permitted, dark inbark is permitted within the size range for non-adhering knots		
9. Defects of wood structure (open inbark)	permitted in the total number within the limits for non-adhering knots			
10. Sound discoloration (false heartwood)	not permitted	permitted up to 25% of the panel surface	permitted	permitted
11. Sound discoloration (spots, streaks, streak marks)	Permitted light ones not more than 15 % of the panel surface area	permitted		
12. Sound discoloration (group streaks)	Permitted light ones not more than 15 % of the panel surface area	permitted		
13. Discoloration due to oxidation; sapwood discoloration	permitted up to 30 % of the panel surface	permitted		

WOOD AND MACHINING DEFECTS	B (I)	BB (II)	CP (III)	C (IV)
tion caused by wood-staining fungi (blue stain, sapwood color stains), discoloration during storage				
14. Biological defects (wormhole)	permitted in the total number within the limits for non-adhering knots			
15. Discolouration with partial wood damage	not permitted			
16. Repairing of knots and holes with wood plugs before pressing	not permitted	permitted using butterfly-shaped plugs in the maximum number of 8 per m <sup>2</sup> , the wood colour and grain direction should correspond to the wood colour and grain direction of the outer ply	Permitted using butterfly-shaped plugs with a gap of 1 mm on one side or 0.5 mm on both sides	permitted using butterfly-shaped plugs
17. Double plug	not permitted	permitted in the maximum number of 1 per m <sup>2</sup>	permitted	
18. Repairing of large checks with veneer plugs	not permitted			
19. Bulges due to overlapping inner plies (marks indicating plies overlap)	not permitted	permitted of a length of up to 200 mm, width of up to 3 mm in the maximum number of 3 per panel	permitted of a length of up to 600 mm, width of up to 5 mm in the maximum number of 5 per panel	permitted
20. Overlap	not permitted	permitted of a length of up to 100 mm, width of up to 2 mm in the maximum number of 1 per metre of the panel width	permitted of a length of up to 300 mm, width of up to 2 mm in the maximum number of 2 per metre of the panel width	permitted
21. Marks left by tools and equipment (marks left by battens, stripes)	not permitted	permitted up to 10 % of the panel surface	permitted	

WOOD AND MACHINING DEFECTS	B (I)	BB (II)	CP (III)	C (IV)
22. Glue penetration	not permitted	permitted up to 2 % of the panel surface	permitted up to 5 % of the panel surface	permitted
23. Marks left by tools and equipment, pinholes, kerfs	permitted in the total number within the limits for non-adhering knots			
24. Scratches, ridges, bumps, dents, crests	not permitted		permitted up to 0.5 mm high (deep), up to 120 mm long, up to 10 mm wide	permitted
25. Warp	in accordance with par. 6.6.1		not considered in plywood under 6.5 mm thick, permitted maximum deflection of 15 mm per 1 m of the length of the diagonal of a plywood panel over 6.5 mm thick	
26. Glue thread	not permitted		permitted	
27. Blisters, delamination (incl. in bending), bark pocket	not permitted			
28. Sander skips (non- uniform sanding)	not permitted			permitted up to 50 % of the panel surface
29. Sanding through	not permitted		permitted up to 1% of the panel surface	permitted
30. Metal inclusions	not permitted		permitted non-ferrous metal staples	
31. Edge defects after trim- ming, missing veneer	not permitted	permitted of a width of up to 2 mm		permitted of a width of up to 10 mm
32. Coarse peeling	not permitted	permitted up to 5 % of the panel surface	permitted up to 15 % of the panel surface	permitted
33. Waviness (for sanded plywood), fuzzy grain, rip- ple	not permitted		permitted	
34. Surface roughness	roughness R <sub>m</sub> is according to GOST 7016, μm, not more than 100			
35. Pocket (without bark	not permitted	permitted in the total num-	permitted	

WOOD AND MACHINING DEFECTS	B (I)	BB (II)	CP (III)	C (IV)
inclusion)		ber within the limits specified in par. 12 of this Appendix		
36. Glued in pieces of veneer	not permitted		permitted of a length of up to 150 mm, width of up to 30 mm in the maximum number of 1 per panel	permitted
37. Gradient spots	not permitted for plywood with at least one side of these grades		permitted	
38. Weak edge	not permitted for plywood with at least one side of these grades		permitted	
39. Burnt edge	not permitted for plywood with at least one side of these grades		permitted	

Note: No defects not specified in Appendix A are permitted.

## APPENDIX B (mandatory)

### Terms and definitions of machining defects of outer plies of SVEZA TOY plywood

The terms and definitions of machining defects of outer plies of SVEZA TOY plywood are specified in Table B.1.

Table B.1

Description of machining defects	Definition
Glued in pieces of veneer	Pieces of veneer glued (pressed) in plywood surface
Coarse peeling	Plywood surface has closely located shallow depressions resulting from local wood removal during peeling
Pocket	Cavity inside wood or between growth rings that is filled with gums
Gradient spots (color variations in form of a screen)	Color variations in form of a screen on the plywood surface, either a dark one on a light background or light on a dark background.
Weak edge	A defect in form of an edge area with protruding/torn-out wood fiber bundles characterized by decreased density
Burnt edge	A surface area darkened by partial charring as a reaction to high temperature arising by the increased friction of cutting tools on wood

**APPENDIX C**  
(mandatory)

**Designation of SVEZA TOY plywood grades**

The designation of SVEZA OVERLAY plywood grades is given in Table C.1

**T a b l e C.1**

Latin letters	Roman numerals	Text on the label in the “Grade” field
B/B	I/I	T B/B (I/I)
B/BB	I/II	T B/BB (I/II)
B/CP	I/III	T B/CP (I/III)
B/C	I/IV	T B/C (I/IV)
BB/BB	II/II	T BB/BB (II/II)
BB/CP	II/III	T BB/CP (II/III)
BB/C	II/IV	T BB/C (II/IV)
CP/CP	III/III	T CP/CP (III/III)
CP/C	III/IV	T CP/C (III/IV)
C/C	IV/IV	T C/C (IV/IV)

## Bibliography

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| [1] DIN EN ISO 12460-3   | Wood-based panels – Determination of formaldehyde release – Part 3. Gas analysis method  |
| [2] EN 326-1-1994  | Wood-based panels – Sampling, cutting and inspection – Part 1: Sampling and cutting of test pieces and expression of test results  |
| [3] EN 322:1993  | Wood-based panels – Determination of moisture content  |
| [4] EN 314-1:2004  | Plywood – Bonding quality – Part 1: Test methods   |
| [5] EN 310:1993  | Wood-based panels – Determination of modulus of elasticity in bending and of bending strength  |
| [6] DIN EN 319:1993  | Particleboards and fibreboards. Determination of tensile strength perpendicular to the plane of the board  |
| [7] ASTM D6007-02  | Standard test method for determining formaldehyde concentration in air from wood products using a small-scale chamber  |
| [8] GN (hygienic standards) 2.1.6.3492-17                      | Maximum allowable concentrations (MAC) of pollutants in the atmospheric air of urban and rural settlements   |
| [9] GN (hygienic standards) 2.1.6.2309-07                      | Safe reference levels of impact (SRLI) of pollutants in the atmospheric air of populated areas. Hygienic standards   |
| [10] TR CU 025/2012  | Technical Regulations of the Customs Union<br>On Safety of Furniture Products  |
| [11]   | Uniform sanitary, epidemiological and hygienic requirements to the goods subject to sanitary and epidemiological supervision (control) approved by Resolution of the Customs Union Commission No. 299 dated May 28, 2010 |
| [12] TR CU 008/2011  | On safety of toys  |
| [13] DIN EN 13986<br>(German version of EN 13986-2004+A1-2015) | Wood-based panels for use in construction.<br>Characteristics, evaluation of conformity and marking  |



UDC (Universal Decimal Classification) 674-415:006.354 ICS (International Classification for Standards) 79.060.10 OKPD (Russian Classification of Products by Economic Activities) 2 16.21.12.119

Keywords: company standard, SVEZA TOY birch plywood, sizes, technical requirements, packaging, marking, inspection methods, transportation, storage, warranty.

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Standard developer company  
SVEZA-Les LLC