



The world leader in birch plywood
production

CATALOG OF PLYWOOD GRADES

Norms of restrictions of plywood processing defects
in accordance with the requirements of STO (corporate standard) 00255177-001-2013



In order to enable correct functioning of the links while browsing
the document, it is recommended to use a browser or Adobe Reader



TABLE OF CONTENTS

Part 1. Description of grades

Grade B (allowable defects) (page 5)

Grade B (not allowable defects) (page 8)

Grade S (allowable defects) (page 11)

Grade S (not allowable defects) (page 15)

Grade B Sel (allowable defects) (page 17)

Grade B Sel (not allowable defects) (page 20)

Grade S Sel (allowable defects) (page 23)

Grade S Sel (not allowable defects) (page 26)

Grade BB (allowable defects) (page 29)

Grade BB (not allowable defects) (page 34)

Grade BBx (allowable defects) (page 35)

Grade BBx (not allowable defects) (page 40)

Grade CP (allowable defects) (page 42)

Grade CP (not allowable defects) (page 48)

Grade WG (allowable defects) (page 49)

Grade WG (not allowable defects) (page 55)

Grade WGE (allowable defects) (page 56)

Grade WGE (not allowable defects) (page 62)

Grade C (allowable defects) (page 63)

Grade C (not allowable defects) (page 70)

Grade CC (allowable defects) (page 71)

Grade CC (not allowable defects) (page 78)



TABLE OF CONTENTS

Part 2. Description of the defects

1. Beads from side plates (traces of side plates) (page 80)
2. Biological defects (wormholes) (page 81)
3. Blisters, delamination, bark (page 82)
4. Closed cracks (page 83)
5. Color defects with partial wood defects (page 84)
- 6a. Dead knots, falling out knots, holes from fallen out knots (without bark) (page 85)
- 6b. Dead knots, falling out knots, holes from fallen out knots (without bark) (page 86)
7. Dents (page 87)
8. Deviations in wood structure (curly-grain, burl) (page 88)
9. Deviations in wood structure (eyes) (page 89)
10. Double plug repair (page 90)
11. Edge defects because of grinding, cuts (edging), veneer shortage (page 91)
12. Glue seepage (page 92)
13. Glue thread (page 93)
14. Grinding of outer layers (page 94)
15. Inserted glued veneer parts (page 95)
16. Knots with bark inclusions, holes from fallen out knots (page 96)
- 17a. Live sound knots (light and dark) (page 97)
- 17b. Live sound knots (light and dark) (page 98)
18. Manufacturing stains (beam traces, lines) (page 99)
19. Mechanical damage (splits, kerfs) (page 100)
20. Metal inclusions (page 101)
21. Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage (page 102)
- 22a. Open splits, open seam on spliced veneer (page 103)
- 22b. Open splits, open seam on spliced veneer (page 104)
- 22c. Open splits, open seam on spliced veneer (page 105)
23. Overlapping (page 106)
24. Partially intergrown knots (page 107)
25. Pin knot (page 108)
26. Plug repair (page 109)
27. Pocket (without bark) (page 110)
28. Rippling (for sanded plywood), roughness of sawn surface (page 111)
29. Sander skips (non-uniform sanding) (page 112)
30. Scratches, scars, pimples, ridges (page 113)
31. Scuffleness non-smooth (page 114)
32. Sound color changes (false core) (page 115)
33. Sound color changes (mottles) (page 116)
34. Sound color changes (stringers, traces of stringers) (page 117)
35. Sound color changes (veins groups) (page 118)
36. Split repair with patches or plug repairs (page 119)
37. Warpage (page 120)
38. Wood defects (open inbark) (page 121)
39. Wood structure defects (grown together light and dark bark pocket) (page 122)



Part 1

DESCRIPTION OF GRADES


Allowable and not allowable defects



GRADE B / ALLOWABLE DEFECTS

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.


Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 200 mm, 5 pcs/m of sheet width.


Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable among black knots with diameter up to 6 mm, 3 pcs/m².


Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation.


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)


 Light ones with diameter up to 15 mm with chap up to 0.5 mm, 5 pcs/m² are allowable.



GRADE B / ALLOWABLE DEFECTS

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.


Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 30% of sheet area.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable among black knots with diameter up to 6 mm, 3 pcs/m².


Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.


Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

 The light one is allowable the length up to 175 mm, width up to 4 mm, 3 pcs/m².

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)


 The light ones are allowable the length up to 175 mm, width up to 4 mm, 3 pcs/m².



GRADE B / ALLOWABLE DEFECTS


Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 30x30 mm are allowable, 1 per m².


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Only light bark pocket is allowable, dark bark pocket is allowable in the size and in the number among black knots.



GRADE B/ NOT ALLOWABLE DEFECTS

- ➖ **Beads from side plates (traces of side plates)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Dents** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Double plug repair** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Edge defects because of grinding, cuts (edging), veneer shortage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue seepage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)



GRADE B/ NOT ALLOWABLE DEFECTS

- [-] **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- [-] **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- [-] **Manufacturing stains (beam traces, lines)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- [-] **Open splits, open seam on spliced veneer** [GO TO DEFECT DESCRIPTION](#)
- [-] **Overlapping** [GO TO DEFECT DESCRIPTION](#)
- [-] **Plug repair** [GO TO DEFECT DESCRIPTION](#)
- [-] **Pocket (without bark)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Rippling (for sanded plywood), roughness of sawn surface** [GO TO DEFECT DESCRIPTION](#)
- [-] **Sander skips (non-uniform sanding)** [GO TO DEFECT DESCRIPTION](#)



GRADE B / NOT ALLOWABLE DEFECTS

- ❌ **Scratches, scars, pimples, ridges** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Scuffleness non-smooth** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Sound color changes (false core)** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Split repair with patches or plug repairs** [GO TO DEFECT DESCRIPTION](#)



GRADE S/ALLOWABLE DEFECTS

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 200 mm, 5 pcs/m of sheet width.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

! Allowable among black knots with diameter up to 6 mm, 3 pcs/m².

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

! Allowable with no limitation.

Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

! Allowable without number limitation.

Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

! Allowable width is up to 5 mm along the edge.



GRADE S/ALLOWABLE DEFECTS

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 1% of sheet area.

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

! Light and dark ones with diameter up to 15 mm with chap up to 0.5 mm, 5 pcs/m² are allowable.

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 30% of sheet area.

Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 200 mm, width up to 1 mm, 2 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

! Allowable among black knots with diameter up to 6 mm, 3 pcs/m².



GRADE S/ALLOWABLE DEFECTS

Pin knot

[GO TO DEFECT DESCRIPTION](#)

! Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

! 1 pcs/m² is allowable with color and grain flow match.

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

! Allowable 5 mm from the edge.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

! The light one is allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m².

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

! The light ones are allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m².

Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)


! The light ones 30x30 mm are allowable, 1 per m².



GRADE S/ALLOWABLE DEFECTS


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Only light bark pocket is allowable, dark bark pocket is allowable in the size and in the number among black knots.



GRADE S/ NOT ALLOWABLE DEFECTS

- ➖ **Beads from side plates (traces of side plates)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Dents** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Double plug repair** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Manufacturing stains (beam traces, lines)** [GO TO DEFECT DESCRIPTION](#)



GRADE S/ NOT ALLOWABLE DEFECTS


- ➖ **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Overlapping** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Pocket (without bark)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Rippling (for sanded plywood), roughness of sawn surface** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Scratches, scars, pimples, ridges** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Scuffleness non-smooth** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Sound color changes (false core)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Split repair with patches or plug repairs** [GO TO DEFECT DESCRIPTION](#)



GRADE B Sel/ALLOWABLE DEFECTS

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 200 mm, 2 pcs/m of sheet width.


Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 6 mm, 2 pcs/m².


Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation.


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable excluding dark eyes.

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.



GRADE B Sel/ALLOWABLE DEFECTS

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

! Allowable among black knots with diameter up to 6 mm, 2 pcs/m².

Pin knot

[GO TO DEFECT DESCRIPTION](#)

! Allowable with no limitation in sizes and number.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

! The light one is allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m².

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

! The light ones are allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m².

Warpage

[GO TO DEFECT DESCRIPTION](#)

! It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 10 mm by 1 m of sheet diagonal length.

Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)


! It is allowable within the total number in accordance with the norms for black knots.



GRADE B Sel/ALLOWABLE DEFECTS

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Only light bark pocket is allowable, dark bark pocket is allowable in the size and in the number among black knots.



GRADE B Sel/ NOT ALLOWABLE DEFECTS

- ➖ **Beads from side plates (traces of side plates)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Dents** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Double plug repair** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Edge defects because of grinding, cuts (edging), veneer shortage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue seepage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)



GRADE B Sel/ NOT ALLOWABLE DEFECTS

- [-] **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- [-] **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- [-] **Live sound knots (light and dark)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Manufacturing stains (beam traces, lines)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- [-] **Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage** [GO TO DEFECT DESCRIPTION](#)
- [-] **Open splits, open seam on spliced veneer** [GO TO DEFECT DESCRIPTION](#)
- [-] **Overlapping** [GO TO DEFECT DESCRIPTION](#)
- [-] **Plug repair** [GO TO DEFECT DESCRIPTION](#)



GRADE B Sel/ NOT ALLOWABLE DEFECTS

- ➖ **Pocket (without bark)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Rippling (for sanded plywood), roughness of sawn surface** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Sander skips (non-uniform sanding)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Scratches, scars, pimples, ridges** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Scuffleness non-smooth** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Sound color changes (false core)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Sound color changes (veins groups)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Split repair with patches or plug repairs** [GO TO DEFECT DESCRIPTION](#)



GRADE S Sel/ALLOWABLE DEFECTS

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.


Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 200 mm, 2 pcs/m of sheet width.


Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 6 mm, 2 pcs/m².

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation.


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable excluding dark eyes.

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.



GRADE S Sel/ALLOWABLE DEFECTS


Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable on 5% of sheet area.


Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 200 mm, width up to 1 mm, 2 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable among black knots with diameter up to 6 mm, 2 pcs/m².


Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.


Plug repair

[GO TO DEFECT DESCRIPTION](#)

 1 pcs/m² is allowable with color and grain flow match.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

 The light one is allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m².



GRADE S Sel/ALLOWABLE DEFECTS


Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

 The light ones are allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m².


Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 30x30 mm are allowable, 1 per m².

Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Only light bark pocket is allowable, dark bark pocket is allowable in the size and in the number among black knots.



GRADE S Sel/ NOT ALLOWABLE DEFECTS

- ➖ **Beads from side plates (traces of side plates)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Dents** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Double plug repair** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Edge defects because of grinding, cuts (edging), veneer shortage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue seepage** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)



GRADE S Sel/ NOT ALLOWABLE DEFECTS

- [-] **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- [-] **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- [-] **Live sound knots (light and dark)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Manufacturing stains (beam traces, lines)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- [-] **Overlapping** [GO TO DEFECT DESCRIPTION](#)
- [-] **Pocket (without bark)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Rippling (for sanded plywood), roughness of sawn surface** [GO TO DEFECT DESCRIPTION](#)
- [-] **Sander skips (non-uniform sanding)** [GO TO DEFECT DESCRIPTION](#)
- [-] **Scratches, scars, pimples, ridges** [GO TO DEFECT DESCRIPTION](#)



GRADE S Sel/ NOT ALLOWABLE DEFECTS


- ➖ **Scuffleness non-smooth** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Sound color changes (false core)** [GO TO DEFECT DESCRIPTION](#)
- ➖ **Split repair with patches or plug repairs** [GO TO DEFECT DESCRIPTION](#)



GRADE BB / ALLOWABLE DEFECTS

Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

 Allowable length is up to 200 mm; width is up to 10 mm, or 3 pcs/sheet.


Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.


Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 300 mm, 5 pcs/m of sheet width.


Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable among black knots with diameter up to 6 mm, 3 pcs/m².


Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation.

Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.



GRADE BB / ALLOWABLE DEFECTS

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

! Allowable max 1 pcs/m².

Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

! Allowable width is up to 5 mm along the edge.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 2% of sheet area (for 3 to 21 mm thickness).
Allowable up to 5% of sheet area (for thickness 24 mm and above).

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

! Light and dark ones with diameter up to 25 mm with chap up to 1 mm, 10 pcs/m² are allowable.

Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

! Allowable not more than 10% of sheets in pack.

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)


! It is allowable within the total number in accordance with the norms for black knots.



GRADE BB / ALLOWABLE DEFECTS


Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 50% of sheet area (with false core).


Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 250 mm, width up to 2 mm, 3 pcs/m of sheet width.


Overlapping

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 100 mm, width up to 2 mm, 1 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².


Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

 8 pcs/m² is allowable with color and grain flow match.



GRADE BB / ALLOWABLE DEFECTS

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

! Allowable in size of group stringers (60x40 mm) 1 pcs/m².

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

! Allowable 5 mm from the edge.

Scuffleness non-smooth

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 5% of sheet area.

Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 25% of sheet area.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

! The light and dark ones are allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².



GRADE BB / ALLOWABLE DEFECTS


Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 60x40 mm are allowable, 1 per m².


Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

 Splits over 2 mm shall be filled with veneer sheet insertions with glue.


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE BB / NOT ALLOWABLE DEFECTS

- ❌ **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Dents** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Rippling (for sanded plywood), roughness of sawn surface** [GO TO DEFECT DESCRIPTION](#)
- ❌ **Scratches, scars, pimples, ridges** [GO TO DEFECT DESCRIPTION](#)



GRADE BBx/ALLOWABLE DEFECTS

Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

! Allowable length is up to 200 mm; width is up to 10 mm, or 3 pcs/sheet.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 300 mm, 5 pcs/m of sheet width.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

! Allowable among black knots with diameter up to 6 mm, 3 pcs/m².

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

! Allowable with no limitation.

Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

! Allowable without number limitation.



GRADE BBx/ALLOWABLE DEFECTS


Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 5 mm along the edge.


Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 2% of sheet area (for 3 to 21 mm thickness).
Allowable up to 5% of sheet area (for thickness 24 mm and above).


Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

 Light and dark ones with diameter up to 25 mm with chap up to 1 mm, 10 pcs/m² are allowable.


Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

 Allowable not more than 10% of sheets in pack.

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)


 It is allowable within the total number in accordance with the norms for black knots.



GRADE BBx/ALLOWABLE DEFECTS


Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 50% of sheet area (with false core).


Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 200 mm, width up to 2 mm, 3 pcs/m of sheet width.


Overlapping

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 100 mm, width up to 2 mm, 1 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².


Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable in size of group stringers (60x40 mm) 1 pcs/m².



GRADE BBx/ALLOWABLE DEFECTS

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

! Allowable 5 mm from the edge.

Scuffleness non-smooth

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 5% of sheet area.

Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 25% of sheet area.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

! The light and dark ones are allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².

Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)


! The light ones 60x40 mm are allowable, 1 per m².



GRADE BBx/ALLOWABLE DEFECTS


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE BBx/ NOT ALLOWABLE DEFECTS

- [-] **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
- [-] **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
- [-] **Dents** [GO TO DEFECT DESCRIPTION](#)
- [-] **Double plug repair** [GO TO DEFECT DESCRIPTION](#)
- [-] **Glue thread** [GO TO DEFECT DESCRIPTION](#)
- [-] **Grinding of outer layers** [GO TO DEFECT DESCRIPTION](#)
- [-] **Inserted glued veneer parts** [GO TO DEFECT DESCRIPTION](#)
- [-] **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)
- [-] **Metal inclusions** [GO TO DEFECT DESCRIPTION](#)
- [-] **Plug repair** [GO TO DEFECT DESCRIPTION](#)



GRADE BBx/ NOT ALLOWABLE DEFECTS


- ❌ Rippling (for sanded plywood), roughness of sawn surface [GO TO DEFECT DESCRIPTION](#)
- ❌ Scratches, scars, pimples, ridges [GO TO DEFECT DESCRIPTION](#)
- ❌ Split repair with patches or plug repairs [GO TO DEFECT DESCRIPTION](#)



GRADE CP/ALLOWABLE DEFECTS


Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

 Allowable length is up to 600 mm; width is up to 10 mm, or 5 pcs/sheet.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Edge and medial ones are allowable without number limitation.


Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 6 mm and without number limitations.


Dents

[GO TO DEFECT DESCRIPTION](#)

 Allowable height (depth) is up to 0.5 mm, length is up to 120 mm, and width is up to 10 mm.

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)


 Allowable with no limitation.



GRADE CP/ALLOWABLE DEFECTS


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation but not in color and orientation.


Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 5 mm along the edge.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area (for 3 to 21 mm thickness).
Allowable up to 10% of sheet area (for thickness 24 mm and above).

Glue thread

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Grinding of outer layers

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 1% of sheet area (for 3 to 21 mm thickness).
Allowable up to 2% of sheet area (for thickness 24 mm and above).



GRADE CP/ALLOWABLE DEFECTS

Inserted glued veneer parts

[GO TO DEFECT DESCRIPTION](#)

! Allowable length is up to 150 mm, width is up to 30 mm; 1 pcs per sheet.

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

! Light and dark ones with no limitation in diameter with chap up to 1 mm are allowable.

Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

! Allowable

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Metal inclusions

[GO TO DEFECT DESCRIPTION](#)

! Nonferrous metals staples are allowable.

Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 75% of sheet area (with false core).



GRADE CP/ALLOWABLE DEFECTS

Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable the length up to 600 mm, width up to 2 mm, 2 pcs/m of sheet width.
- ! Allowable the length up to 600 mm, width up to 5 mm, providing patching with mastic.

Overlapping

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable the length up to 300 mm, width up to 2 mm, 2 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².

Pin knot

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

- ! Insertions with gap on one side up to 1 mm (or on both sides 0.5 mm) are allowable without number limitation but not in color and orientation.

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable



GRADE CP / ALLOWABLE DEFECTS


Rippling (for sanded plywood), roughness of sawn surface

[GO TO DEFECT DESCRIPTION](#)

 Allowable


Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area.

Scratches, scars, pimples, ridges

[GO TO DEFECT DESCRIPTION](#)

 Allowable height (depth) is up to 0.5 mm, length is up to 120 mm, width is up to 10 mm.

Scuffiness non-smooth

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 15% of sheet area.


Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 75% of sheet area.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)


 Allowable without limitation.



GRADE CP / ALLOWABLE DEFECTS

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.


Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

 Splits over 5 mm shall be filled with veneer sheet insertions with glue.


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.



Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE CP/ NOT ALLOWABLE DEFECTS

-  **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
-  **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
-  **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)



GRADE WG/ALLOWABLE DEFECTS


Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 10 mm.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Edge and medial ones are allowable without number limitation.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 15 mm, 7 pcs/m².

Dents

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 120 mm.

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)


 Allowable with no limitation.



GRADE WG/ALLOWABLE DEFECTS


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation but not in color and orientation.


Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 5 mm along the edge.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 10% of sheet area (for 3 to 21 mm thickness).
Allowable up to 15% of sheet area (for thickness 24 mm and above).


Glue thread

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Grinding of outer layers

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 1% of sheet area (for 3 to 21 mm thickness).
Allowable up to 2% of sheet area (for thickness 24 mm and above).



GRADE WG/ALLOWABLE DEFECTS

Inserted glued veneer parts

[GO TO DEFECT DESCRIPTION](#)

! Allowable length is up to 150 mm, width is up to 30 mm; 1 pcs per sheet.

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

! Light and dark ones with no limitation in diameter and number are allowable.

Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

! Allowable

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Metal inclusions

[GO TO DEFECT DESCRIPTION](#)

! Nonferrous metals staples are allowable.

Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 75% of sheet area (with false core).



GRADE WG/ALLOWABLE DEFECTS

Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 600 mm, width up to 5 mm, 2 pcs/m of sheet width.

Overlapping

[GO TO DEFECT DESCRIPTION](#)

! Allowable the length up to 600 mm, width up to 4 mm, 2 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

! Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².

Pin knot

[GO TO DEFECT DESCRIPTION](#)

! Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

! Insertions are allowable without number limitation but not in color and orientation.

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

! Allowable



GRADE WG / ALLOWABLE DEFECTS


Rippling (for sanded plywood), roughness of sawn surface

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area.

Scratches, scars, pimples, ridges

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 120 mm.

Scuffiness non-smooth

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 15% of sheet area.


Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 75% of sheet area.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)


 Allowable without limitation.



GRADE WG / ALLOWABLE DEFECTS


Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.


Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

 Splits over 5 mm shall be filled with veneer sheet insertions with glue.


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.


Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.




Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE WG/ NOT ALLOWABLE DEFECTS

-  **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
-  **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
-  **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)



GRADE WGE / ALLOWABLE DEFECTS

Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

! Allowable length is up to 600 mm; width is up to 10 mm, or 5 pcs/sheet.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

! Edge and medial ones are allowable without number limitation.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

! Allowable with diameter up to 6 mm and without number limitations.

Dents

[GO TO DEFECT DESCRIPTION](#)

! Allowable height (depth) is up to 0.5 mm, length is up to 120 mm, and width is up to 10 mm.

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)


! Allowable with no limitation.



GRADE WGE / ALLOWABLE DEFECTS

Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation but not in color and orientation.


Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 5 mm along the edge.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area (for 3 to 21 mm thickness).
Allowable up to 10% of sheet area (for thickness 24 mm and above).


Glue thread

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Grinding of outer layers

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 1% of sheet area (for 3 to 21 mm thickness).
Allowable up to 2% of sheet area (for thickness 24 mm and above).



GRADE WGE / ALLOWABLE DEFECTS

Inserted glued veneer parts

[GO TO DEFECT DESCRIPTION](#)

! Allowable length is up to 150 mm, width is up to 30 mm; 1 pcs per sheet.

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

! Light and dark ones with no limitation in diameter with chap up to 1 mm are allowable.

Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

! Allowable

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.

Metal inclusions

[GO TO DEFECT DESCRIPTION](#)

! Nonferrous metals staples are allowable.

Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

! Allowable up to 75% of sheet area (with false core).



GRADE WGE/ALLOWABLE DEFECTS

Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable the length up to 600 mm, width up to 2 mm, 2 pcs/m of sheet width.
- ! Allowable the length up to 600 mm, width up to 5 mm, providing patching with mastic.

Overlapping

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable the length up to 300 mm, width up to 2 mm, 2 pcs/m of sheet width.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².

Pin knot

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

- ! Insertions with gap on one side up to 1 mm (or on both sides 0.5 mm) are allowable without number limitation but not in color and orientation.

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

- ! Allowable



GRADE WGE / ALLOWABLE DEFECTS


Rippling (for sanded plywood), roughness of sawn surface

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area.


Scratches, scars, pimples, ridges

[GO TO DEFECT DESCRIPTION](#)

 Allowable height (depth) is up to 0.5 mm, length is up to 120 mm, width is up to 10 mm.


Scuffiness non-smooth

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 15% of sheet area.


Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 75% of sheet area.

Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.



GRADE WGE / ALLOWABLE DEFECTS

Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

! Allowable without limitation.

Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

! Allowable without limitations.

Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

! Splits over 5 mm shall be filled with veneer sheet insertions with glue.

Warpage

[GO TO DEFECT DESCRIPTION](#)

! It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.

Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)

! It is allowable within the total number in accordance with the norms for black knots.




Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

! Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE WGE/ NOT ALLOWABLE DEFECTS

-  **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)
-  **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)
-  **Knots with bark inclusions, holes from fallen out knots** [GO TO DEFECT DESCRIPTION](#)



GRADE C/ALLOWABLE DEFECTS


Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Edge and medial ones are allowable without number limitation.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 40 mm and without number limitations.


Dents

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)


 Allowable with no limitation.



GRADE C/ALLOWABLE DEFECTS


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation but not in color and orientation.

Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 10 mm.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable


Glue thread

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Grinding of outer layers

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area.



GRADE C / ALLOWABLE DEFECTS

Inserted glued veneer parts

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Knots with bark inclusions, holes from fallen out knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 40 mm and no limitations in number (bark patch inclusions are allowable nearby knot with width 5 mm).

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

 Light and dark ones with no limitation in diameter and number are allowable.


Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

 Allowable


Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.

Metal inclusions

[GO TO DEFECT DESCRIPTION](#)


 Nonferrous metals staples are allowable.



GRADE C / ALLOWABLE DEFECTS

Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

 Allowable the length up to 800 mm, width up to 10 mm, without number limitations.

Overlapping

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 40 mm and without number limitations.

Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.

Plug repair

[GO TO DEFECT DESCRIPTION](#)

 Insertions are allowable without number limitation but not in color and orientation.



GRADE C/ALLOWABLE DEFECTS

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Rippling (for sanded plywood), roughness of sawn surface

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 50% of sheet area.

Scratches, scars, pimples, ridges

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Scuffleness non-smooth

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)


 Allowable up to 75% of sheet area.



GRADE C/ALLOWABLE DEFECTS


Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.

Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.


Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

 Allowable


Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.

Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)


 It is allowable within the total number in accordance with the norms for black knots.



GRADE C / ALLOWABLE DEFECTS

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)

 Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE C/ NOT ALLOWABLE DEFECTS

 **Blisters, delamination, bark** [GO TO DEFECT DESCRIPTION](#)

 **Color defects with partial wood defects** [GO TO DEFECT DESCRIPTION](#)



GRADE CC / ALLOWABLE DEFECTS


Beads from side plates (traces of side plates)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.

Biological defects (wormholes)

[GO TO DEFECT DESCRIPTION](#)

 It is allowable within the total number in accordance with the norms for black knots.


Closed cracks

[GO TO DEFECT DESCRIPTION](#)

 Edge and medial ones are allowable without number limitation.

Color defects with partial wood defects

[GO TO DEFECT DESCRIPTION](#)

 Allowable in the form of separate strips with width not more than 30 mm, length up to 200 mm, 2 pcs/m of sheet length.

Dead knots, falling out knots, holes from fallen out knots (without bark)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 70 mm and without number limitations.

Dents

[GO TO DEFECT DESCRIPTION](#)


 Allowable



GRADE CC / ALLOWABLE DEFECTS


Deviations in wood structure (curly-grain, burl)

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation.


Deviations in wood structure (eyes)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation.

Double plug repair

[GO TO DEFECT DESCRIPTION](#)

 Allowable without number limitation but not in color and orientation.

Edge defects because of grinding, cuts (edging), veneer shortage

[GO TO DEFECT DESCRIPTION](#)

 Allowable width is up to 25 mm.

Glue seepage

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Glue thread

[GO TO DEFECT DESCRIPTION](#)


 Allowable



GRADE CC / ALLOWABLE DEFECTS

Grinding of outer layers

[GO TO DEFECT DESCRIPTION](#)

 Allowable up to 5% of sheet area.

Inserted glued veneer parts

[GO TO DEFECT DESCRIPTION](#)

 Allowable


Knots with bark inclusions, holes from fallen out knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 70 mm and no limitations in number (bark patch inclusions are allowable nearby knot with width 5 mm).

Live sound knots (light and dark)

[GO TO DEFECT DESCRIPTION](#)

 Light and dark ones with no limitation in diameter and number are allowable.

Manufacturing stains (beam traces, lines)

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Mechanical damage (splits, kerfs)

[GO TO DEFECT DESCRIPTION](#)


 It is allowable within the total number in accordance with the norms for black knots.



GRADE CC/ALLOWABLE DEFECTS


Metal inclusions

[GO TO DEFECT DESCRIPTION](#)

 Nonferrous metals staples are allowable.


Mineral streaks, sap stains (bluestain, color sap spots), color change at wood storage

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Open splits, open seam on spliced veneer

[GO TO DEFECT DESCRIPTION](#)

 Allowable with the width up to 15 mm, without number limitations.

Overlapping

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.

Partially intergrown knots

[GO TO DEFECT DESCRIPTION](#)

 Allowable with diameter up to 70 mm and without number limitations.

Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.



GRADE CC/ALLOWABLE DEFECTS

Plug repair

[GO TO DEFECT DESCRIPTION](#)



Insertions are allowable without number limitation but not in color and orientation.

Pocket (without bark)

[GO TO DEFECT DESCRIPTION](#)



Allowable

Rippling (for sanded plywood), roughness of sawn surface

[GO TO DEFECT DESCRIPTION](#)



Allowable

Sander skips (non-uniform sanding)

[GO TO DEFECT DESCRIPTION](#)



Allowable

Scratches, scars, pimples, ridges

[GO TO DEFECT DESCRIPTION](#)



Allowable

Scuffiness non-smooth

[GO TO DEFECT DESCRIPTION](#)




Allowable



GRADE CC / ALLOWABLE DEFECTS


Sound color changes (false core)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Sound color changes (mottles)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.


Sound color changes (stringers, traces of stringers)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitation.

Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 Allowable without limitations.


Split repair with patches or plug repairs

[GO TO DEFECT DESCRIPTION](#)

 Allowable

Warpage

[GO TO DEFECT DESCRIPTION](#)

 It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.



GRADE CC/ALLOWABLE DEFECTS

Wood defects (open inbark)

[GO TO DEFECT DESCRIPTION](#)



It is allowable within the total number in accordance with the norms for black knots.

Wood structure defects (grown together light and dark bark pocket)

[GO TO DEFECT DESCRIPTION](#)



Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.



GRADE CC / NOT ALLOWABLE DEFECTS

 **Blisters, delamination, bark**

[GO TO DEFECT DESCRIPTION](#)



Part 2

DESCRIPTION OF THE DEFECTS



1. BEADS FROM SIDE PLATES (TRACES OF SIDE PLATES)

Bead means a local thickening caused by overlapping of the inner layers of veneer sheet.



Both length and width shall be measured.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable length
is up to 200 mm;
width is up to 10 mm,
or 3 pcs/sheet.

CP, WGE
Allowable length
is up to 600 mm;
width is up to 10 mm,
or 5 pcs/sheet.

WG
Allowable
width is up to 10 mm.

C, CC
Allowable
without limitations.



2. BIOLOGICAL DEFECTS (WORMHOLES)

Wormhole means channels or holes left in the timber by insects or larvae.



Wormhole shall be measured at the part with largest diameter.



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE, C, CC

It is allowable within the total number
in accordance with the norms for black knots.



3. BLISTERS, DELAMINATION, BARK

Blister is local plywood surface bulging due to delamination.

Delamination is separation of two adjacent veneer sheet layers along glue line.

Bark is part of bark or bast remaining on veneer sheet area.

Blister



Delamination



Bark



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE, C, CC
Not allowable



4. CLOSED CRACKS

Closed shake is a chap with width not more than 0.2 mm.



Closed shake is measured on maximal length and width.



B, S

Allowable the length up to 200 mm, 5 pcs/m of sheet width.

B Sel, S Sel

Allowable the length up to 200 mm, 2 pcs/m of sheet width.

BB, BBx

Allowable the length up to 300 mm, 5 pcs/m of sheet width.

CP, WG, WGE, C, CC

Edge and medial ones are allowable without number limitation.



5. COLOR DEFECTS WITH PARTIAL WOOD DEFECTS

Non sound color change means undue in color wood parts with reducing of hardness caused by wood-destroying fungi.



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE, C
Not allowable

CC

Allowable in the form of separate strips
with width not more than 30 mm,
length up to 200 mm,
2 pcs/m of sheet length.



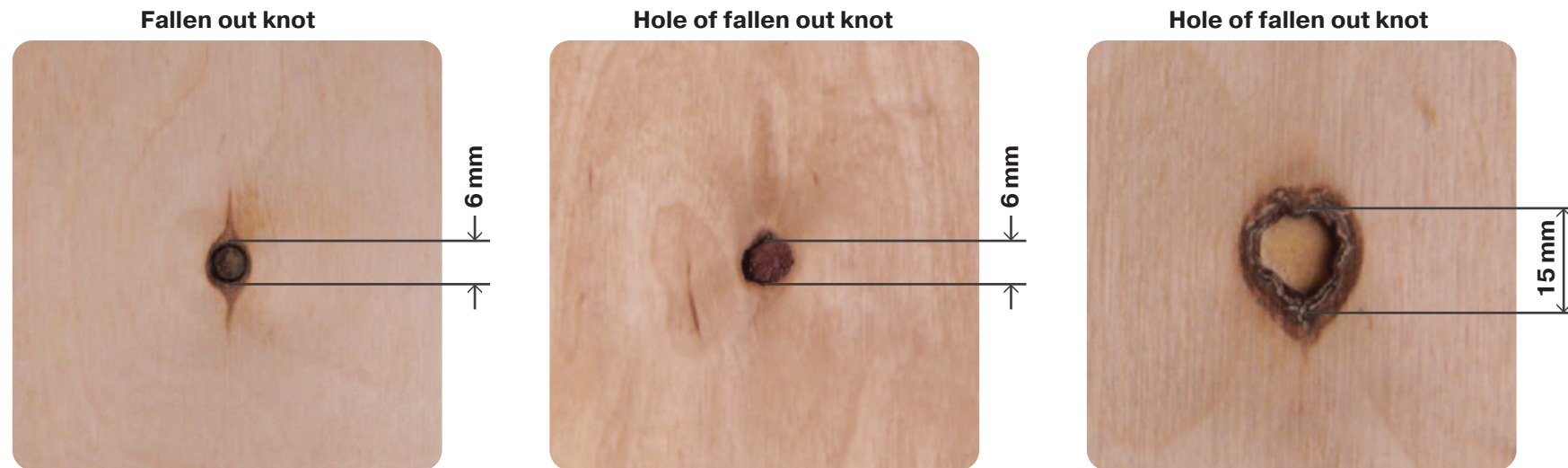
6a. DEAD KNOTS, FALLING OUT KNOTS, HOLES FROM FALLEN OUT KNOTS (WITHOUT BARK)

Black knot is a knot without intergrowth of annual rings with surrounding wood or intergrowth along less than 1/4 of knot size perimeter.

Fallen out knot is a knot without intergrowth with surrounding wood and tightly standing in it.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



B, S, BB, BBx

Allowable among black knots with diameter up to 6 mm, 3 pcs/.m².

B Sel, S Sel

Allowable with diameter up to 6 mm, 2 pcs/m².

CP, WGE

Allowable with diameter up to 6 mm and without number limitations.

WG

Allowable with diameter up to 15 mm, 7 pcs/m².



6b. DEAD KNOTS, FALLING OUT KNOTS, HOLES FROM FALLEN OUT KNOTS (WITHOUT BARK)

Black knot is a knot without intergrowth of annual rings with surrounding wood or intergrowth along less than 1/4 of knot size perimeter.

Fallen out knot is a knot without intergrowth with surrounding wood and tightly standing in it.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



C Allowable with diameter up to 40 mm and without number limitations.

CC

Allowable with diameter up to 70 mm and without number limitations.



7. DENTS

Dent means a local denting of the external layer.

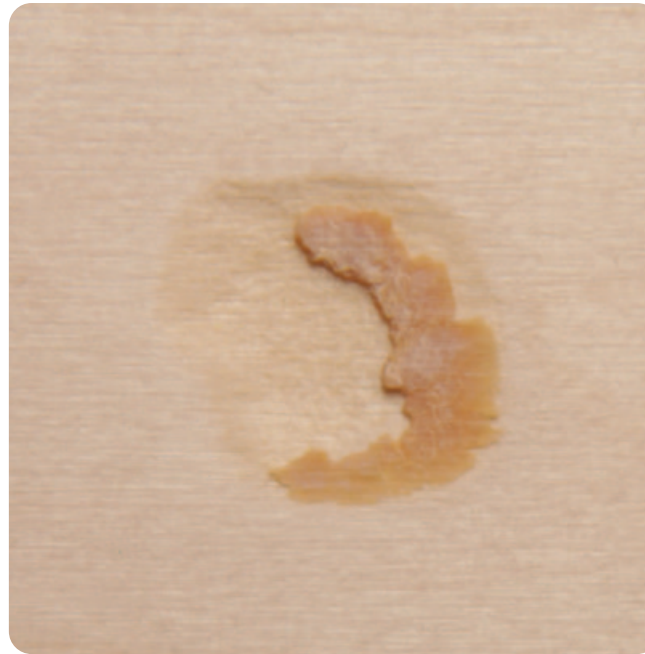


Dent length, width and depth shall be measured.

Dent



Dent caused by gum



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WGE
Allowable height (depth)
is up to 0.5 mm,
length is up to 120 mm,
and width is up to 10 mm.

WG
Allowable width
is up to 120 mm.

C, CC
Allowable



8. DEVIATIONS IN WOOD STRUCTURE (CURLY-GRAIN, BURL)

Curly-grain is curved or disordered arrangement of wood fibers.

Burl is local curvature of annual rings caused by knots and bark pockets.



Curly-grain, eyes and burls are not measured. Their presence is registered as assortment making feature.

Curly-grain



Burl



Allowable all sorts with no limitation.



9. DEVIATIONS IN WOOD STRUCTURE (EYES)

Eyes mean traces of non-deferred shoots. Eyes diameter is not more than 5 mm.

Dark eyes mean eyes with much darker wood than surrounding wood.

Light eyes mean eyes with wood color similar to surrounding wood.

Group eyes mean eyes grouped by three or more and separated in not more than 10 mm.



Curly-grain, eyes and burls are not measured. Their presence is registered as assortment making feature.

Light eye



Group light eyes



Dark eye



B, S, BB, BBx, CP, WG, WGE, C, CC
Allowable without number limitation.

B Sel, S Sel
Allowable
excluding dark eyes.



10. DOUBLE PLUG REPAIR



B, S, B Sel, S Sel, BBx
Not allowable

BB
Allowable
max 1 pcs/m².

CP, WG, WGE, C, CC
Allowable without number
limitation but not in color
and orientation.



11. EDGE DEFECTS BECAUSE OF GRINDING, CUTS (EDGING), VENEER SHORTAGE

Veneer shortage means a defect characterized by lack of part of the veneer sheet in the plywood.

Edging means continuous or discontinuous area on the edge of the plywood with not completely separated wood fibers.



Edge defects because of grinding, cuts, veneer shortage measured along the max distance from the defect to the plywood sheet edge.

Veneer shortage



Veneer shortage



Veneer shortage in the inner layers



Shatters (defect due to cutting)



B, B Sel, S Sel
Not allowable

S, BB, BBx, CP, WG, WGE
Allowable width
is up to 5 mm along the edge.

C
Allowable width
is up to 10 mm.

CC
Allowable width
is up to 25 mm.

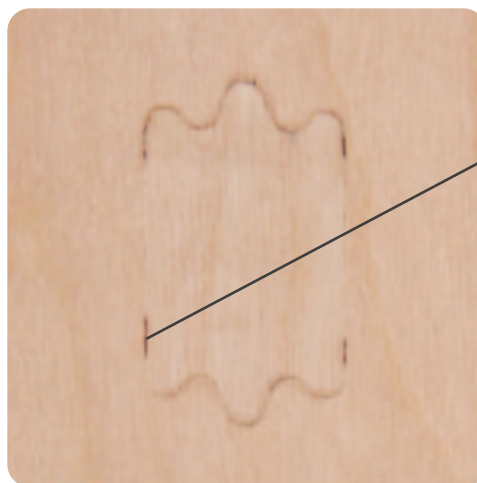


12. GLUE SEEPAGE

Glue seepage is a defect in the form of strips and spots on plywood surface caused by glue penetration from lower glue layer.



It is determined as sum of separate spots squares on plywood surface to whole sheet area.



seepage over plug



B, B Sel, S Sel
Not allowable

S
Allowable
up to 1% of sheet area.

BB, BBx
Allowable up to 2% of sheet area
(for 3 to 21 mm thickness).
Allowable up to 5% of sheet area
(for thickness 24 mm and above).

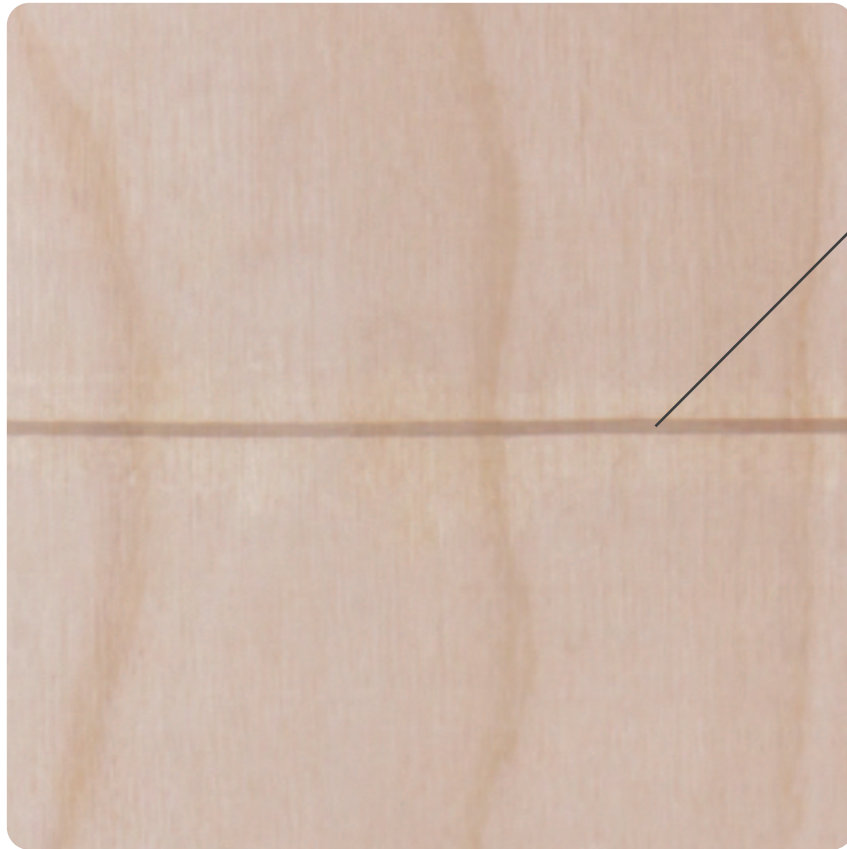
CP, WGE
Allowable up to 5% of sheet area
(for 3 to 21 mm thickness).
Allowable up to 10% of sheet area
(for thickness 24 mm and above).

WG
Allowable up to 10% of sheet area (for 3 to 21 mm thickness).
Allowable up to 15% of sheet area (for thickness 24 mm and above).

C, CC
Allowable



13. GLUE THREAD



glue thread



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WG, WGE, C, CC
Allowable



14. GRINDING OF OUTER LAYERS

Grinding of outer layers is local removing of veneer sheet external layer to glue layer.



Measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.

Grinding on MR-glywood



Grinding on WBP plywood



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WG, WGE

Allowable up to 1% of sheet area (for 3 to 21 mm thickness).

Allowable up to 2% of sheet area (for thickness 24 mm and above).

C, CC

Allowable up to 5% of sheet area.



15. INSERTED GLUED VENEER PARTS

Inserted glued veneer parts mean parts of veneer sheet glued (pressed) on plywood surface.



Patched parts are measured by length and width.



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WG, WGE
Allowable length is up to 150 mm,
width is up to 30 mm;
1 pcs per sheet.

C, CC
Allowable

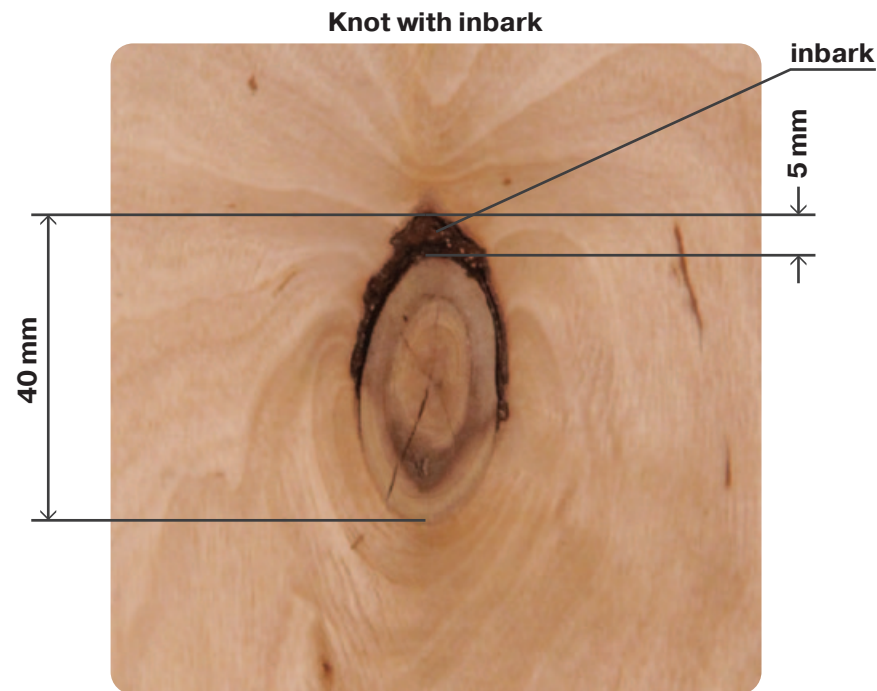


16. KNOTS WITH BARK INCLUSIONS, HOLES FROM FALLEN OUT KNOTS

Inbark is part of bark remaining on knot surface.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE
Not allowable

C
Allowable with diameter up to 40 mm and no limitations in number (bark patch inclusions are allowable nearby knot with width 5 mm).

CC
Allowable with diameter up to 70 mm and no limitations in number (bark patch inclusions are allowable nearby knot with width 5 mm).



17a. LIVE SOUND KNOTS (LIGHT AND DARK)

Intergrown knot is a knot with annual rings intergrown with surrounding wood along not less than 3/4 of knot section perimeter.

Sound knot is a knot with wood free of dote.

Light sound knot is a sound knot with light wood similar in color to surrounding wood.

Dark sound knot is a sound knot with wood much darker than surrounding wood, richly saturated with tar, tanning and heart materials, often with mottling.

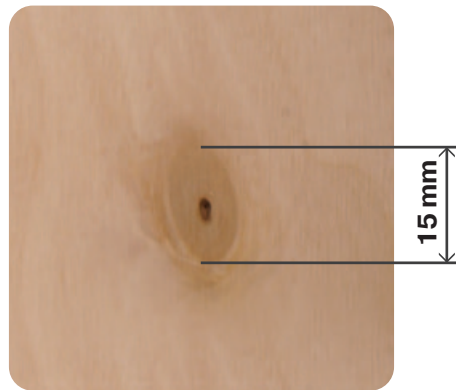


Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.

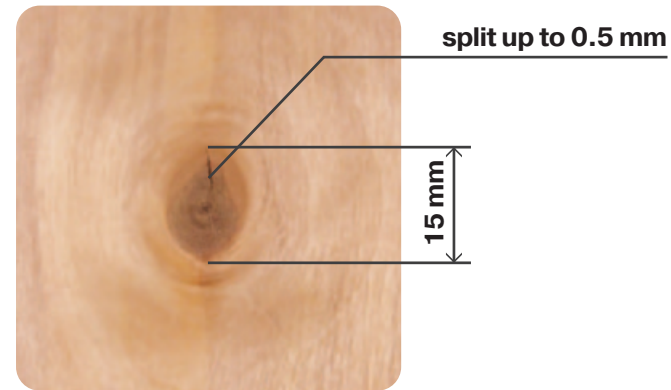
Light knot



Light knot



Dark knot



B
Light ones
with diameter up to 15 mm
with chap up to 0.5 mm,
5 pcs/m² are allowable.

S
Light and dark ones
with diameter up to 15 mm
with chap up to 0.5 mm,
5 pcs/m² are allowable.

B Sel, S Sel
Not allowable



17b. LIVE SOUND KNOTS (LIGHT AND DARK)

Intergrown knot is a knot with annual rings intergrown with surrounding wood along not less than 3/4 of knot section perimeter.

Sound knot is a knot with wood free of dote.

Light sound knot is a sound knot with light wood similar in color to surrounding wood.

Dark sound knot is a sound knot with wood much darker than surrounding wood, richly saturated with tar, tanning and heart materials, often with mottling.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.

Light knot



Dark knot with chap



Dark intergrown knot



BB, BBx

Light and dark ones with diameter up to 25 mm with chop up to 1 mm, 10 pcs/m² are allowable.

CP, WGE

Light and dark ones with no limitation in diameter with chop up to 1 mm are allowable.

WG, C, CC

Light and dark ones with no limitation in diameter and number are allowable.

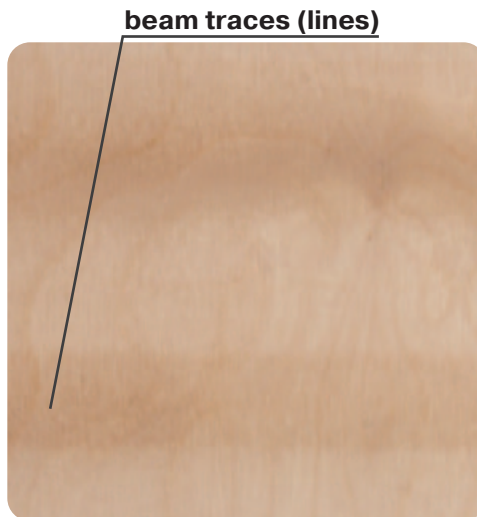
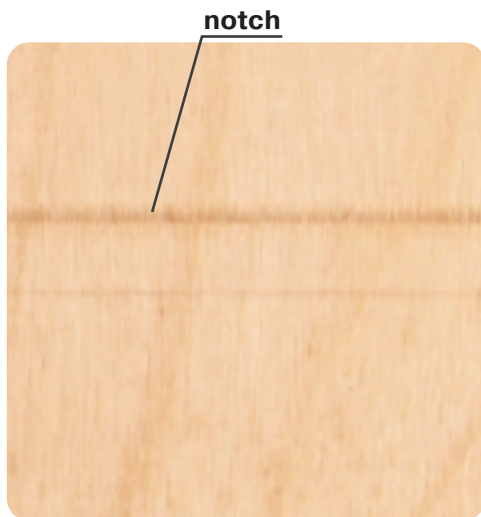


18. MANUFACTURING STAINS (BEAM TRACES, LINES)

Notch is a trace of cutter on material surface.



Determined as assortment making feature.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable not more
than 10% of sheets in pack.

CP, WG, WGE, C, CC
Allowable



19. MECHANICAL DAMAGE (SPLITS, KERFS)

Split is local damage by sharp object.

Kerf is local damage in sawing process.

Breaking out is surface cavity due to local wood removing during processing.



The largest diameter of pinhole is measured.

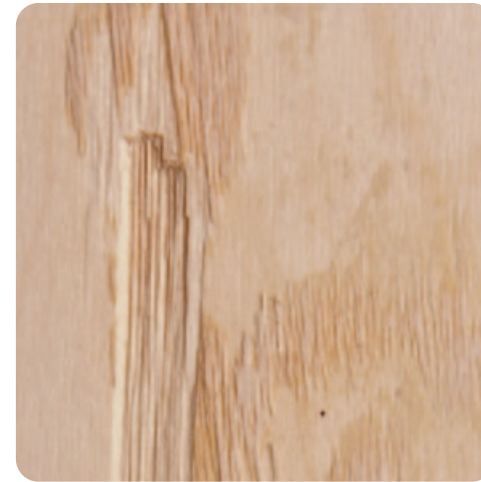
Split



Kerf



Breaking out of grain



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE, C, CC

It is allowable within the total number
in accordance with the norms for black knots.

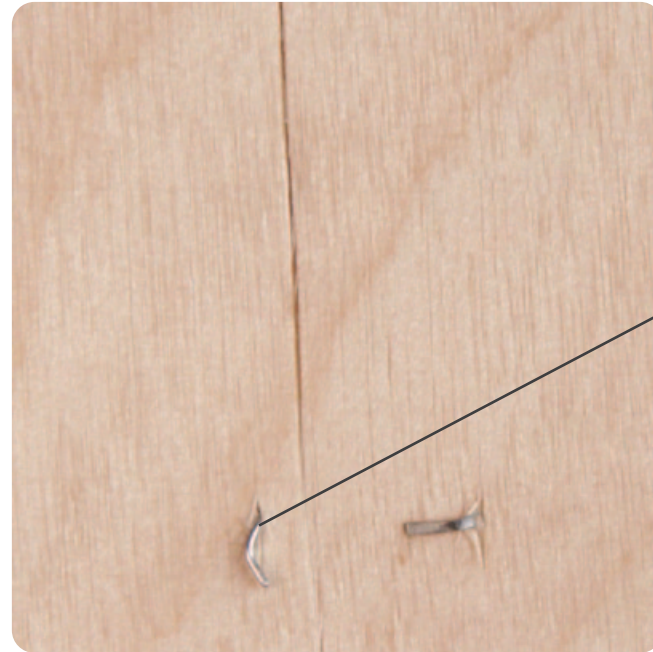


20. METAL INCLUSIONS

Metal inclusions mean metal inclusions such as nonferrous metals staples etc., in inner and external plywood layers.



Not measured, determined as assortment making feature.



staple



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WG, WGE, C, CC
Nonferrous metals staples
are allowable.



21. MINERAL STREAKS, SAP STAINS (BLUESTAIN, COLOR SAP SPOTS), COLOR CHANGE AT WOOD STORAGE

Mineral streak is wood coloration in pale shades not masking its structure.

Bluestain is sap grey coloration with faint bluish tinge greenish cast.

Color sap spots are orange, yellow, pink (to light-purple) and brown sap color.



The defects shall be measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.

Bluestain



Color change at wood storage



Color sap spots



Water spots



B, S
Allowable up to 30%
of sheet area.

B Sel
Not allowable

S Sel
Allowable on 5%
of sheet area.

BB, BBx
Allowable up to 50%
of sheet area
(with false core).

CP, WG, WGE
Allowable up to 75%
of sheet area
(with false core).

C, CC
Allowable
without limitation.

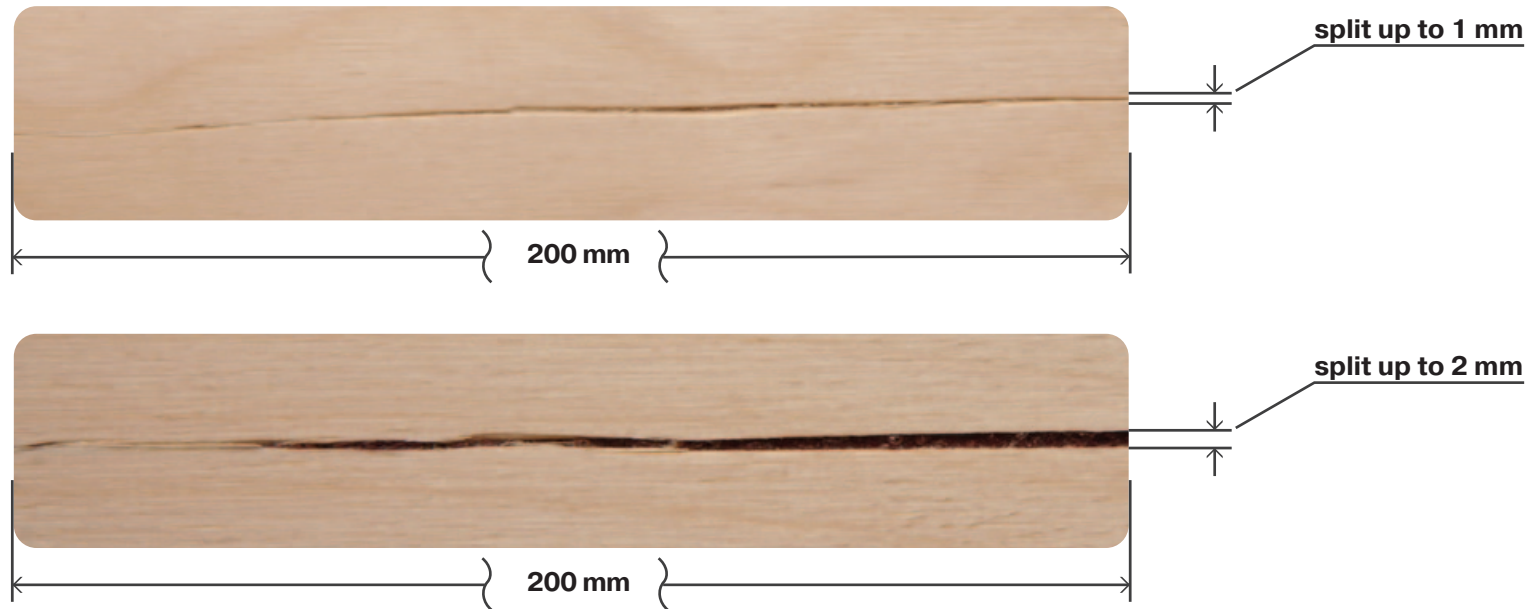


22a. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

Open splits is a split with width over 0.2 mm.



Open splits and open seam are measured by maximal length and width.



B, B Sel
Not allowable

S, S Sel
Allowable the length
up to 200 mm,
width up to 1 mm,
2 pcs/m of sheet width.

BB
Allowable the length
up to 250 mm,
width up to 2 mm,
3 pcs/m of sheet width.

BBx
Allowable the length
up to 200 mm,
width up to 2 mm,
3 pcs/m of sheet width.

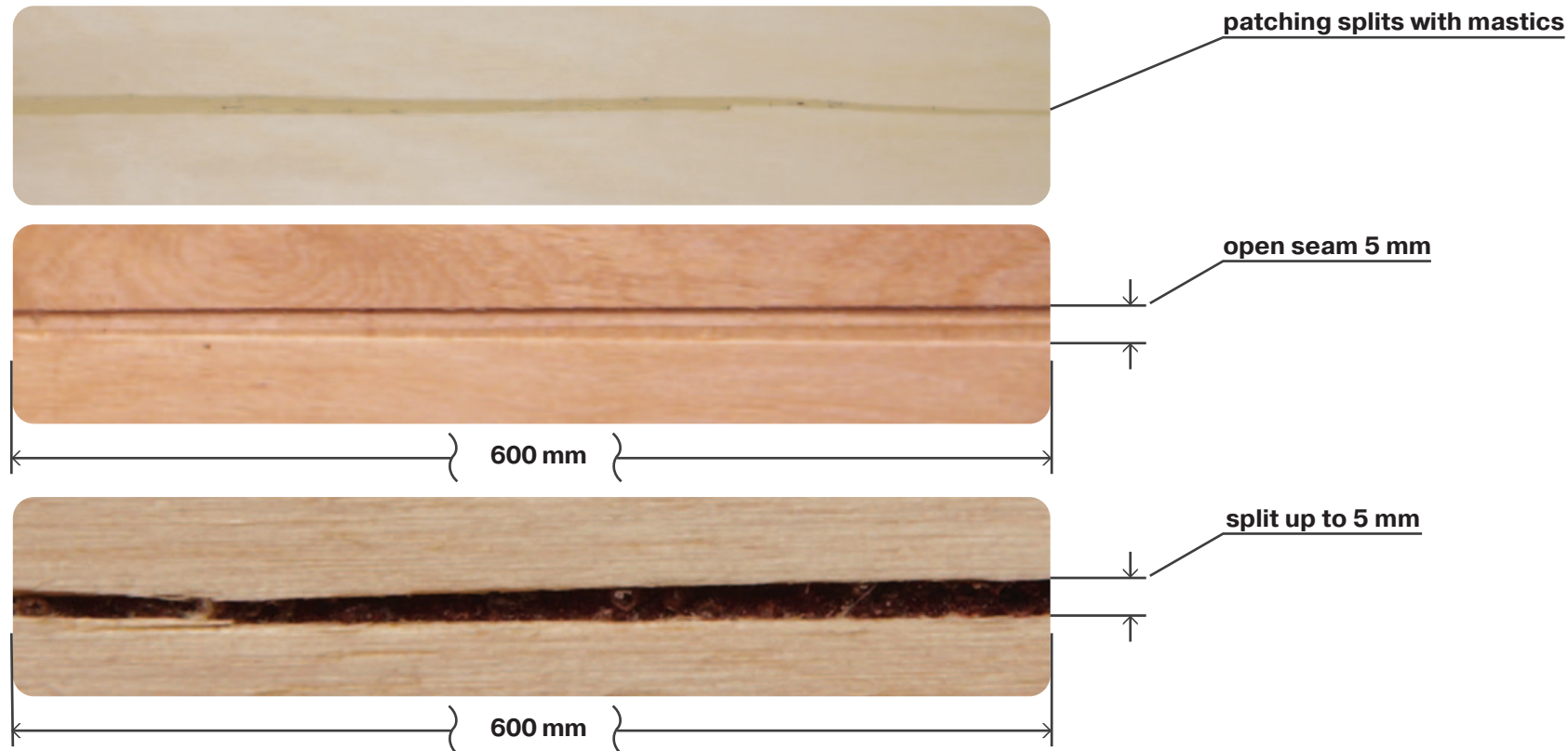


22b. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

Open splits is a split with width over 0.2 mm.



Open splits and open seam are measured by maximal length and width.



CP, WGE

Allowable the length up to 600 mm, width up to 2 mm, 2 pcs/m of sheet width.

Allowable the length up to 600 mm, width up to 5 mm, providing patching with mastic.

WG

Allowable the length up to 600 mm, width up to 5 mm, 2 pcs /m of sheet width.

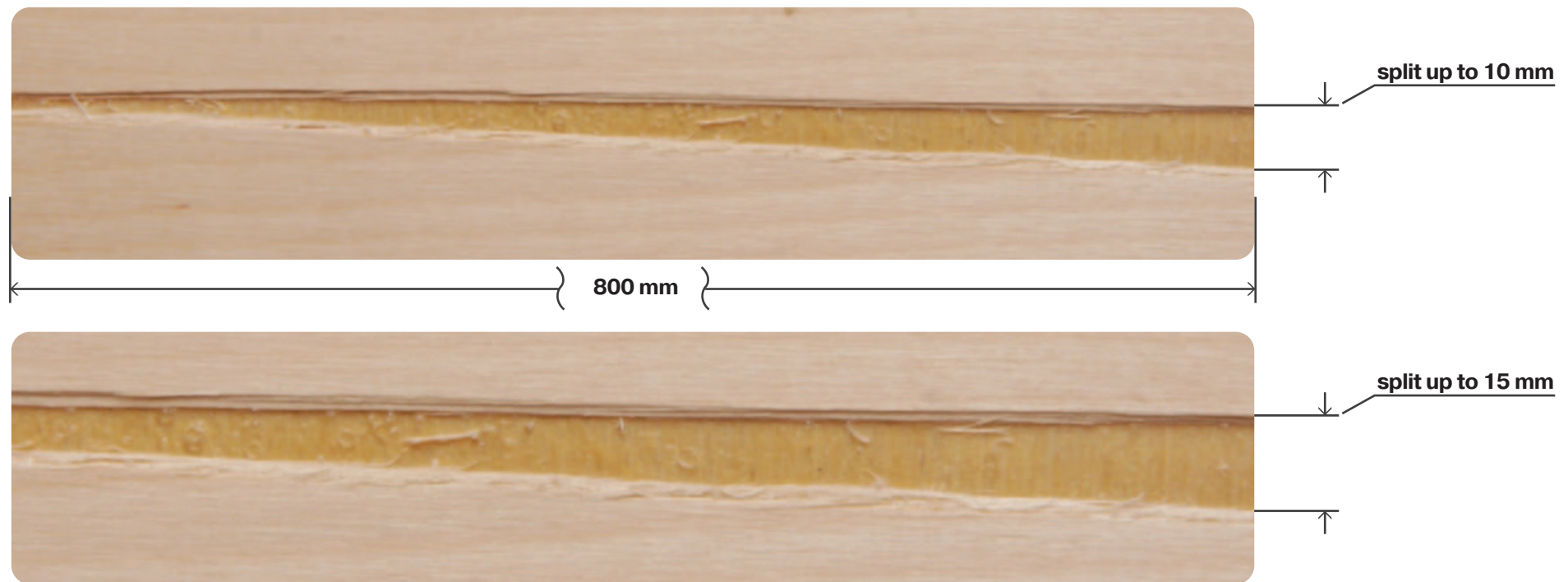


22c. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

Open splits is a split with width over 0.2 mm.



Open splits and open seam are measured by maximal length and width.



C Allowable the length up to 800 mm, width up to 10 mm, without number limitations.

CC Allowable with the width up to 15 mm, without number limitations.

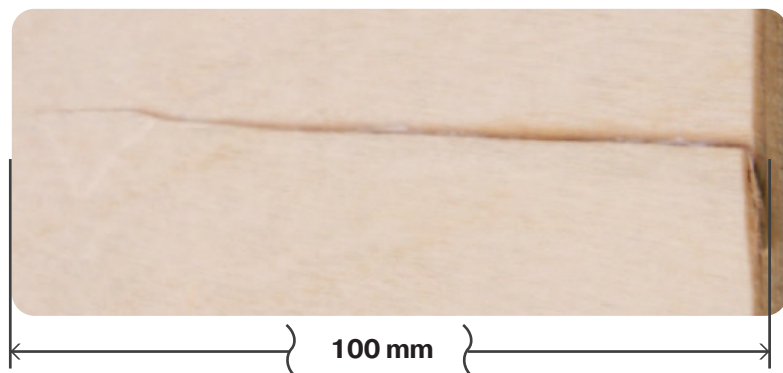


23. OVERLAPPING

Overlapping is a local thickening caused by overlapping of veneer sheets in the external layer of plywood.



Overlapping is measured on maximal length and width.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable
the length
up to 100 mm,
width up to 2 mm,
1 pcs/m of sheet width.

CP, WGE
Allowable
the length
up to 300 mm,
width up to 2 mm,
2 pcs/m of sheet width.

WG
Allowable
the length
up to 600 mm,
width up to 4 mm,
2 pcs/m of sheet width.

C, CC
Allowable
without limitation.

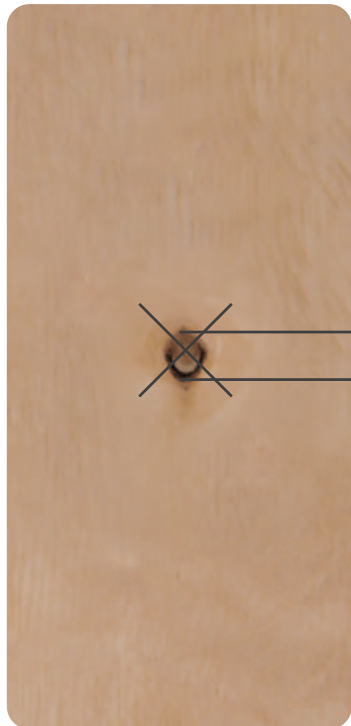


24. PARTIALLY INTERGROWN KNOTS

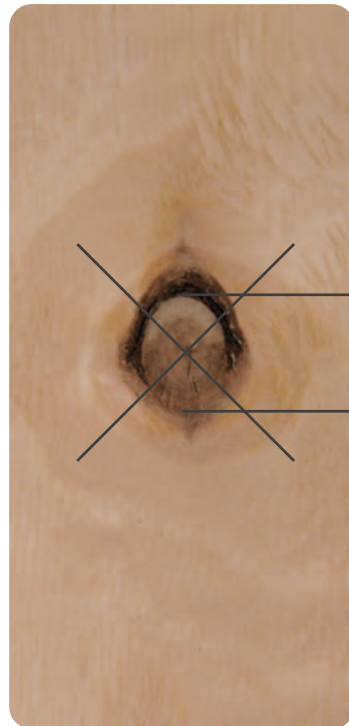
Partially intergrown knot is a knot with annual rings intergrown with surrounding wood along from 1/4 to 3/4 of knot section perimeter.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



6 mm



15 mm



40 mm



70 mm



B, S

Allowable among black knots with diameter up to 6 mm, 3 pcs/m².

B Sel, S Sel

Allowable among black knots with diameter up to 6 mm, 2 pcs/m².

BB, BBx, CP, WG, WGE

Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m².

C

Allowable with diameter up to 40 mm and without number limitations.

CC

Allowable with diameter up to 70 mm and without number limitations.

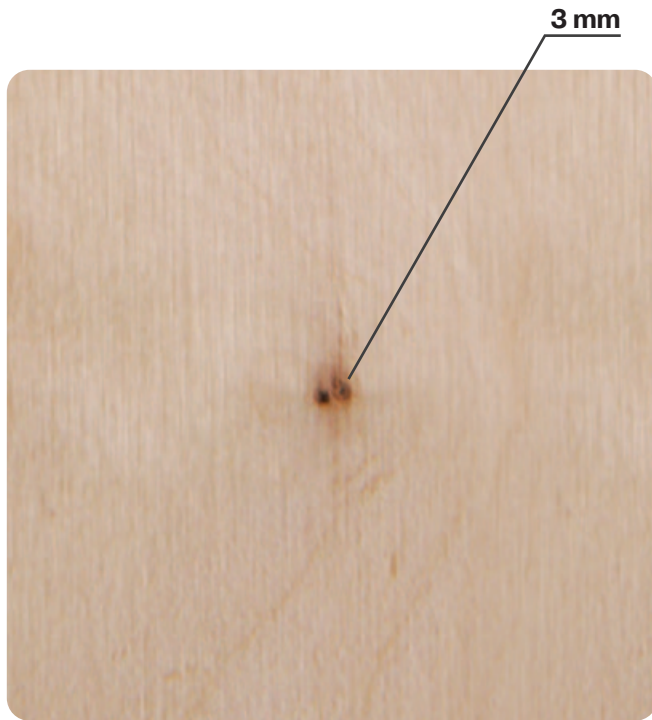


25. PIN KNOT

Pin knot is a sound intergrown knot with diameter not more than 3 mm.



Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



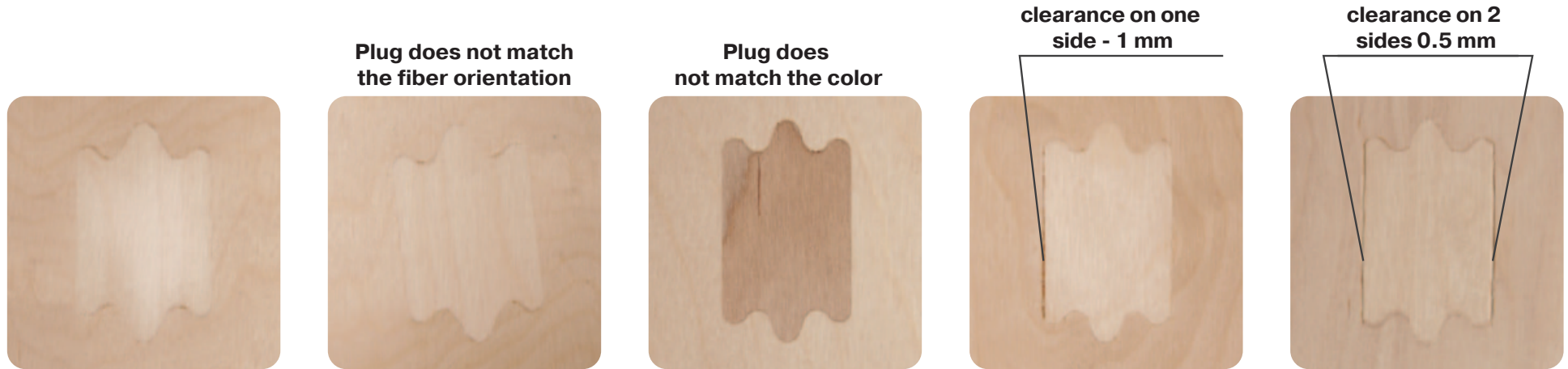
3 mm



Allowable for all sorts with no limitation in sizes and number.



26. PLUG REPAIR



B, B Sel, BBx
Not allowable

S, S Sel
1 pcs/m² is allowable
with color and grain
flow match.

BB
8 pcs/m² is allowable
with color and grain
flow match.

CP, WGE
Insertions with gap on one side
up to 1 mm (or on both sides 0.5 mm)
are allowable without number limitation
but not in color and orientation.

WG, C, CC

Insertions are allowable
without number limitation
but not in color and orientation.



27. POCKET (WITHOUT BARK)

Pocket is a cavity within wood or between annual rings filled in with tar or gum.



Both length and width shall be measured for pockets.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable in size
of group stringers
(60x40 mm) 1 pcs/m².

CP, WG, WGE, C, CC
Allowable



28. RIPPLING (FOR SANDED PLYWOOD), ROUGHNESS OF SAWN SURFACE

Rippling means surface irregularities in the form of regularly alternating elevations and arch shaped hollows.

Roughness means on the surface there are often occurring not completely separated wood fibers.

Roughness of sawn surface means on the surface there are often occurring small hollows, oriented along the fibers.



The defects shall be measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.

Rippling



B, S, B Sel, S Sel, BB, BBx
Not allowable

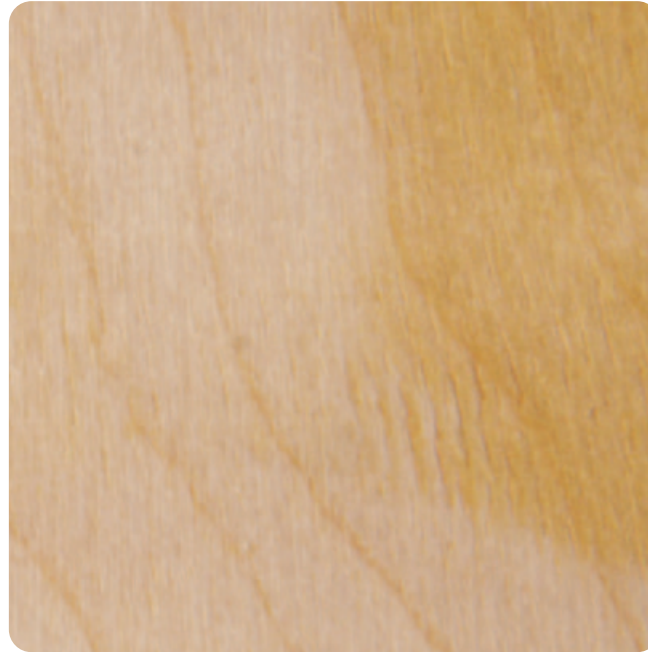
CP, WG, WGE, C, CC
Allowable



29. SANDER SKIPS (NON-UNIFORM SANDING)



The defects shall be measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.



B, B Sel, S Sel
Not allowable

S, BB, BBx
Allowable
5 mm from the edge.

CP, WG, WGE
Allowable up to 5%
of sheet area.

C
Allowable up to 50%
of sheet area.

CC
Allowable



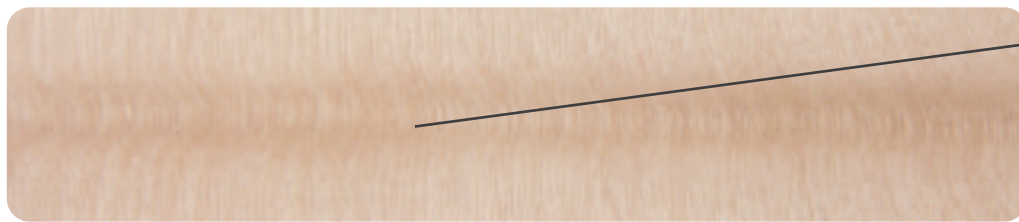
30. SCRATCHES, SCARS, PIMPLES, RIDGES

Scratch is surface damage in the form of long narrow cavity caused by sharp object.

Ridge is a section in the form of narrow strip projecting above the surface.



Dent length, width and depth shall be measured.



ridge



scratch



scratch, width 10 mm,
depth up to 0.5 mm



B, S, B Sel, S Sel, BB, BBx
Not allowable

CP, WGE
Allowable
height (depth) is up to 0.5 mm,
length is up to 120 mm,
width is up to 10 mm.

WG
Allowable width
is up to 120 mm.

C, CC
Allowable



31. SCUFFLENESS NON-SMOOTH

Scuffleness non-smooth is a surface cavity due to local wood removing during processing.



The defects shall be measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable up to 5%
of sheet area.

CP, WG, WGE
Allowable up to 15%
of sheet area.

C, CC
Allowable



32. SOUND COLOR CHANGES (FALSE CORE)

False core is dark varicolored heart the border of that usually does not match with annual rings. It is separated from sapwood with dark (less often light) border and solid as surrounding wood.



The false core shall be measured along the length and width of the area of their location, and shall be expressed in percentage of the plywood sheet square.



B, S, B Sel, S Sel
Not allowable

BB, BBx
Allowable up to 25%
of sheet area.

CP, WG, WGE, C
Allowable up to 75%
of sheet area.

CC
Allowable
without limitation.

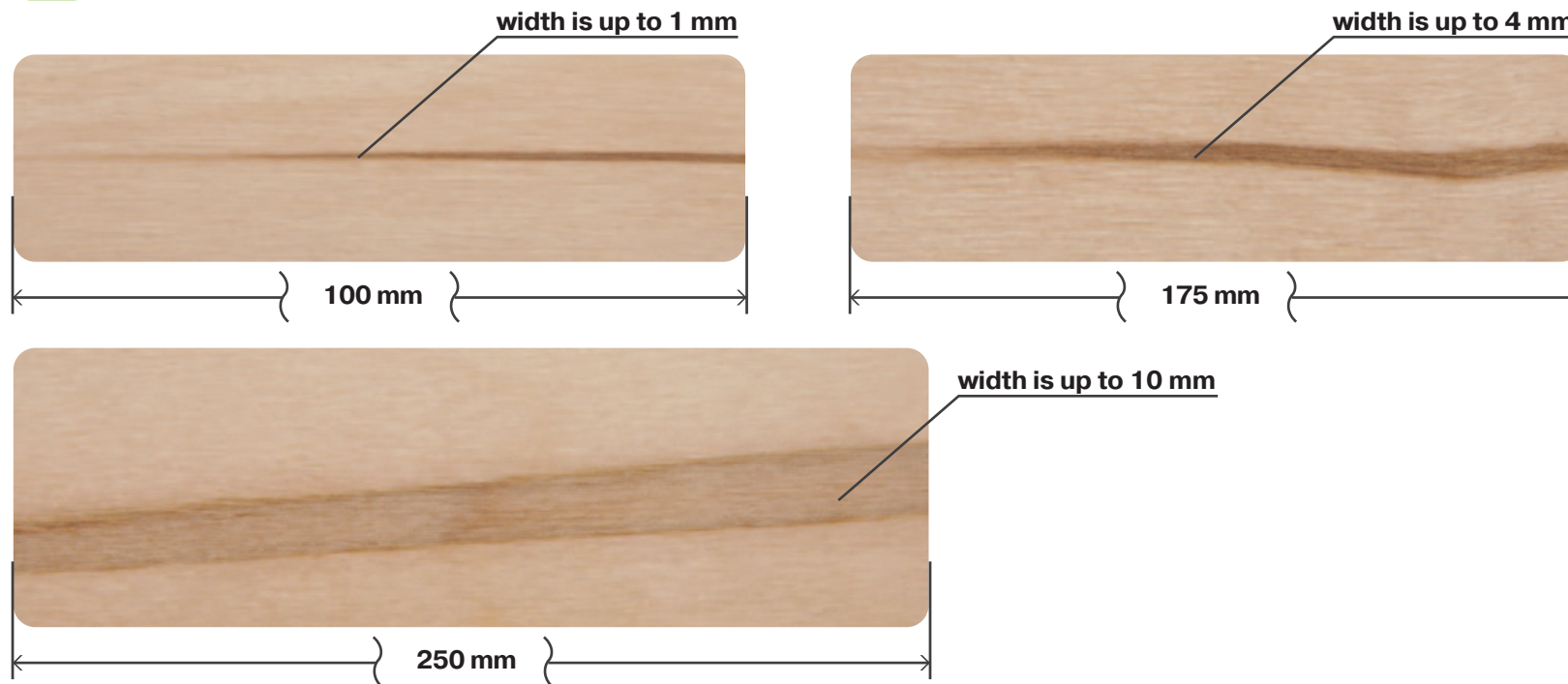


33. SOUND COLOR CHANGES (MOTTLES)

Mottles mean hardwood sap color in the form of spots and strips without reducing wood hardness occurring in growing trees and similar in color to core color.



Mottles length, width and number shall be measured.



B
The light one is allowable the length up to 175 mm, width up to 4 mm, 3 pcs/m².

S
The light one is allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m².

B Sel
The light one is allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m².

S Sel
The light one is allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m².

BB, BBx
Allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².

CP, WG, WGE, C, CC
Allowable without limitation.



34. SOUND COLOR CHANGES (STRINGERS, TRACES OF STRINGERS)

Stringers mean mottling in the form of thin yellowish and brown strips of spongy tissue located along border of annual rings.

Traces of stringers are bleached or darkish strips on veneer sheet area due to stringers under it at a depth of not more than 1 mm.



Stringers length, width and number shall be measured.

Light stringer



Traces of stringers



Dark stringer



B
The light ones are allowable the length up to 175 mm, width up to 4 mm, 3 pcs/m².

S
The light ones are allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m².

B Sel
The light ones are allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m².

S Sel
The light ones are allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m².

BB, BBx
The light and dark ones are allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m².

CP, WG, WGE, C, CC
Allowable without limitation.



35. SOUND COLOR CHANGES (VEINS GROUPS)

Veins groups are stringers close spacing in the form of overlap strips.



Veins length, width and number shall be measured.



B, S, S Sel

The light ones 30x30 mm are allowable, 1 per m².

B Sel

Not allowable

BB, BBx

The light ones 60x40 mm are allowable, 1 per m².

CP, WG, WGE, C, CC

Allowable without limitations.



36. SPLIT REPAIR WITH PATCHES OR PLUG REPAIRS

Patch or plug repair if agreed with customer.



B, S, B Sel, S Sel, BBx
Not allowable

BB
Splits over 2 mm
shall be filled
with veneer sheet
insertions with glue.

CP, WG, WGE
Splits over 5 mm
shall be filled
with veneer sheet
insertions with glue.

C, CC
Allowable

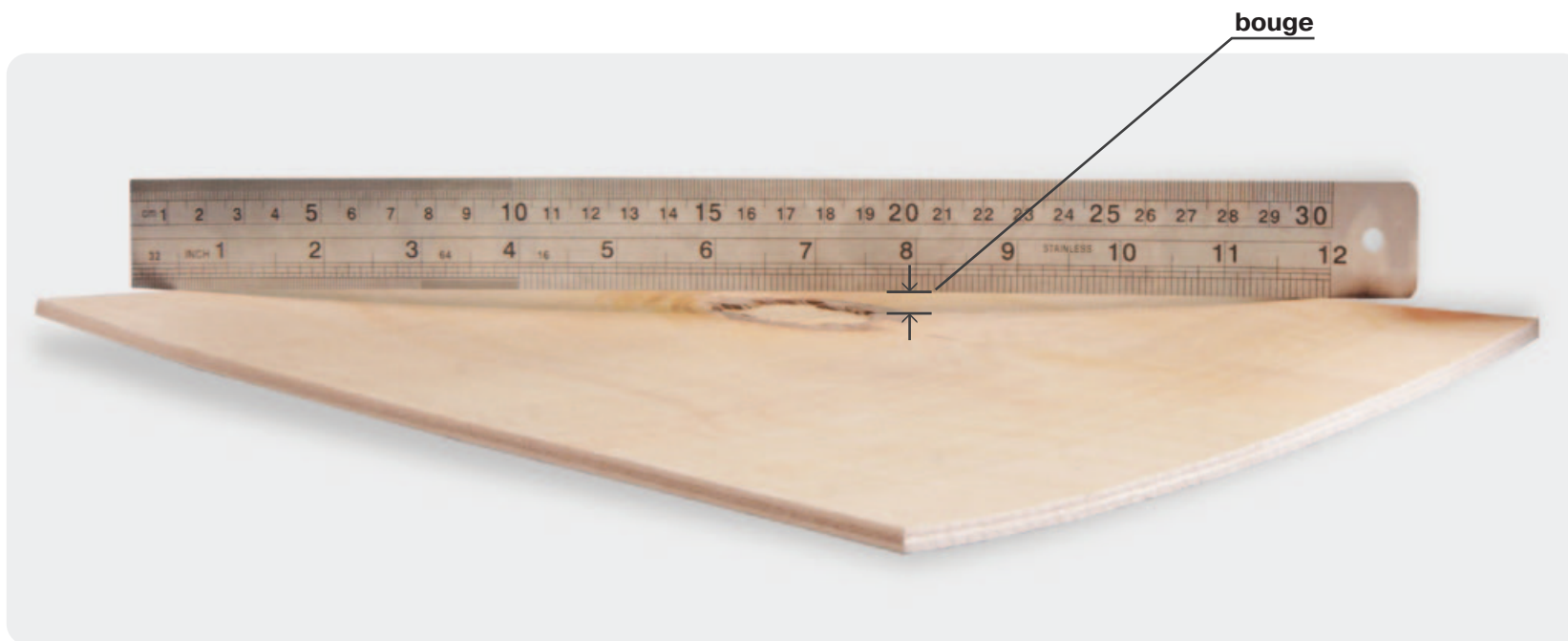


37. WARPAGE

Warpage is a curvature of plywood sheet flatness.



It is measured by putting ruler on the cross of a sheet placed on the flat surface and measuring maximal bouge.



B, S, S Sel, BB, BBx, CP, WG, WGE, C, CC

It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 15 mm by 1 m of sheet diagonal length.

B Sel

It is not considered in plywood with width up to 6.5 mm; it is allowable with width over 6.5 mm not more than 10 mm by 1 m of sheet diagonal length.



38. WOOD DEFECTS (OPEN INBARK)

Open inbark is healing streak with radial gap cavity generally filled in with bark waste and dead tissues.



Bark pocket length shall be measured.



B, S, B Sel, S Sel, BB, BBx, CP, WG, WGE, C, CC

It is allowable within the total number
in accordance with the norms for black knots.



39. WOOD STRUCTURE DEFECTS (GROWN TOGETHER LIGHT AND DARK BARK POCKET)

Bark pocket is healing streak or scab with radial gap cavity generally filled in with bark waste and dead tissues.

Grown together bark pocket is a trace of closed bark pocket in the form of elongated section (seam) of wave growth timber on veneer sheet area.

Light bark pocket is bark pocket with wood similar in color to surrounding wood without bark inclusions.

Dark bark pocket is bark pocket with wood much darker than surrounding wood or with bark inclusions.



Bark pocket length shall be measured.

Light bark pocket



Dark bark pocket



B, S, B Sel, S Sel

Only light bark pocket is allowable, dark bark pocket is allowable in the size and in the number among black knots.

BB, BBx, CP, WG, WGE, C, CC

Light bark pocket is allowable, dark bark pocket is allowable in the size of intergrown knots.

