



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



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# 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/m<sup>2</sup>.


## 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/m<sup>2</sup> 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/m<sup>2</sup>.


## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.



# GRADE B / ALLOWABLE DEFECTS


## Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 30x30 mm are allowable, 1 per m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup> 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/m<sup>2</sup>.



# 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/m<sup>2</sup> 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)


! The light ones 30x30 mm are allowable, 1 per m<sup>2</sup>.



# 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.


**Pin knot**

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.


**Plug repair**

[GO TO DEFECT DESCRIPTION](#)

 1 pcs/m<sup>2</sup> 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/m<sup>2</sup>.



# 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/m<sup>2</sup>.


## Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 30x30 mm are allowable, 1 per m<sup>2</sup>.


## 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/m<sup>2</sup>.


## 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/m<sup>2</sup>.

## 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/m<sup>2</sup> 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/m<sup>2</sup>.


## Pin knot

[GO TO DEFECT DESCRIPTION](#)

 Allowable with no limitation in sizes and number.

## Plug repair

[GO TO DEFECT DESCRIPTION](#)

 8 pcs/m<sup>2</sup> 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.



# GRADE BB / ALLOWABLE DEFECTS

## Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)

 The light ones 60x40 mm are allowable, 1 per m<sup>2</sup>.


## 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/m<sup>2</sup>.

## 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/m<sup>2</sup> 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/m<sup>2</sup>.


## 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/m<sup>2</sup>.



# 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/m<sup>2</sup>.


## 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/m<sup>2</sup>.

## Sound color changes (veins groups)

[GO TO DEFECT DESCRIPTION](#)


 The light ones 60x40 mm are allowable, 1 per m<sup>2</sup>.



# 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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/m<sup>2</sup>.

## 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

## Scuffleness 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

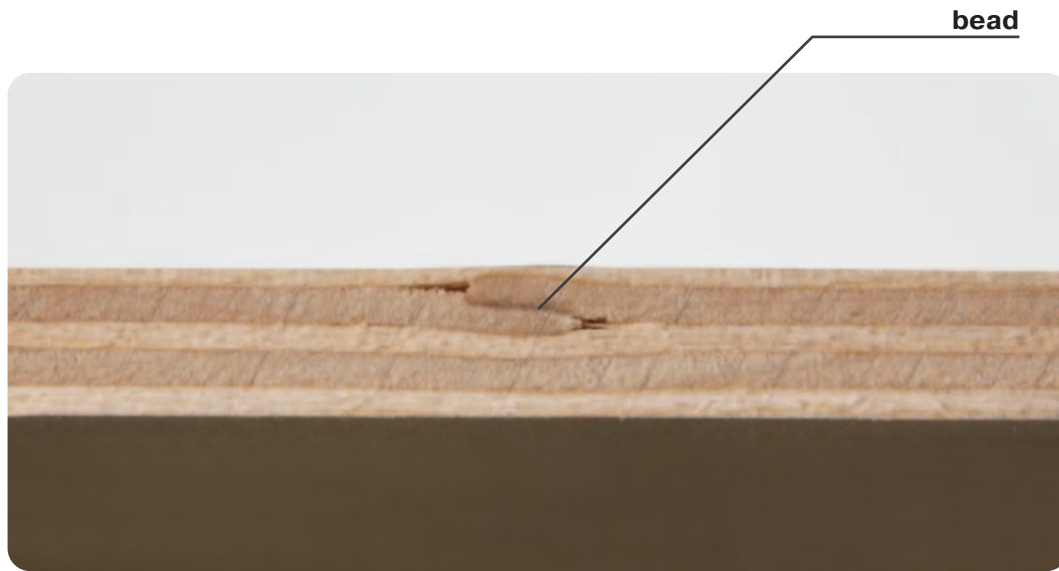


# 1. BEADS FROM SIDE PLATES (TRACES OF SIDE PLATES)

**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)

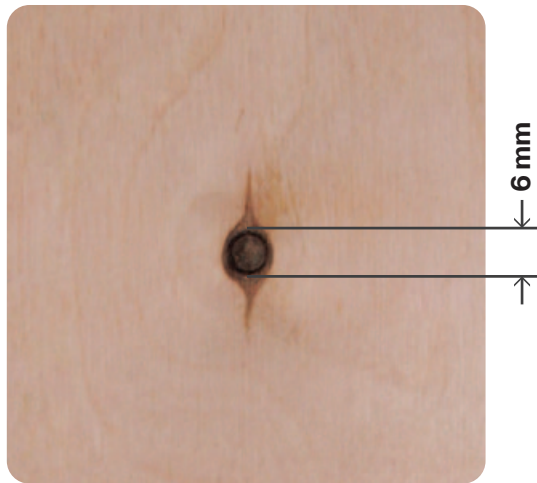
**Black knot** is a knot without intergrowth of annual rings with surrounding wood or intergrowth along less than 1/4 of knot size perimeter.

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

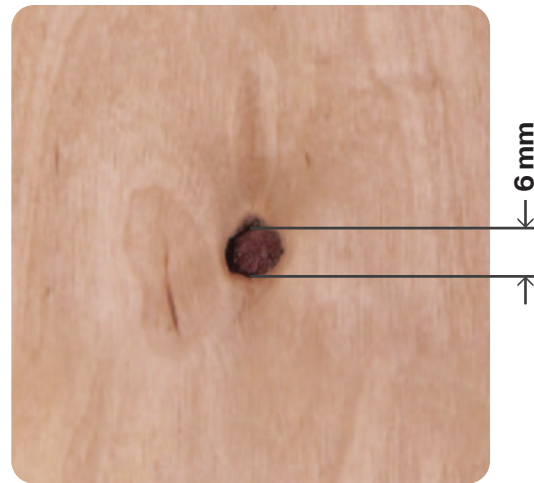


Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.

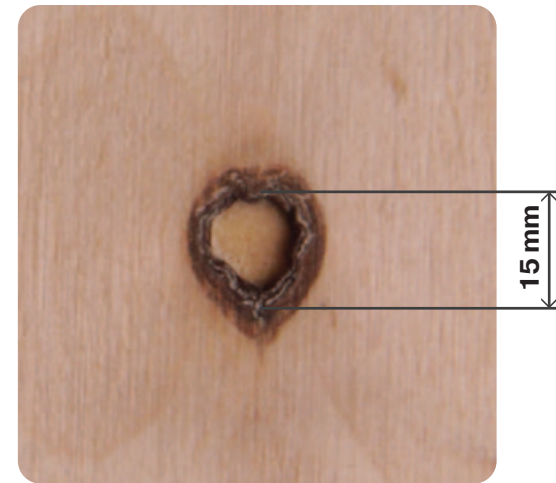
Fallen out knot



Hole of fallen out knot



Hole of fallen out knot



### **B, S, BB, BBx**

Allowable among black knots with diameter up to 6 mm, 3 pcs/.m<sup>2</sup>.

### **B Sel, S Sel**

Allowable with diameter up to 6 mm, 2 pcs/m<sup>2</sup>.

### **CP, WGE**

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

### **WG**

Allowable with diameter up to 15 mm, 7 pcs/m<sup>2</sup>.



## 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.

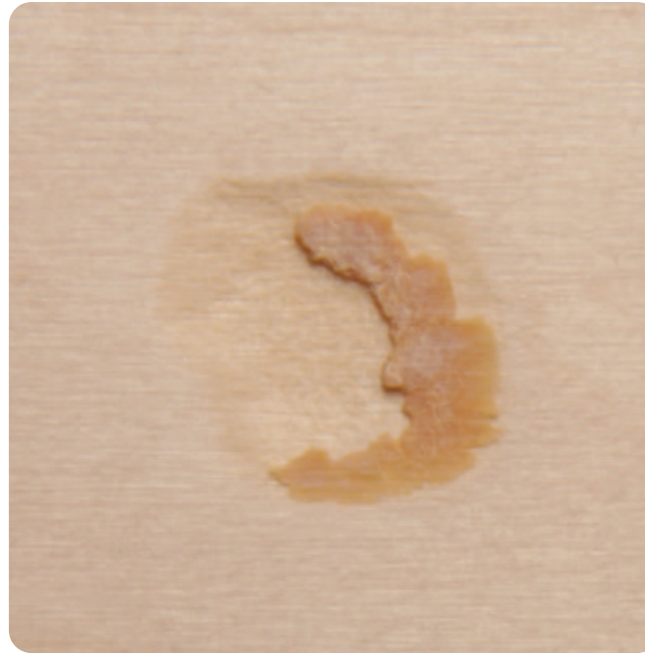


Dent length, width and depth shall be measured.

**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/m<sup>2</sup>.

**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.



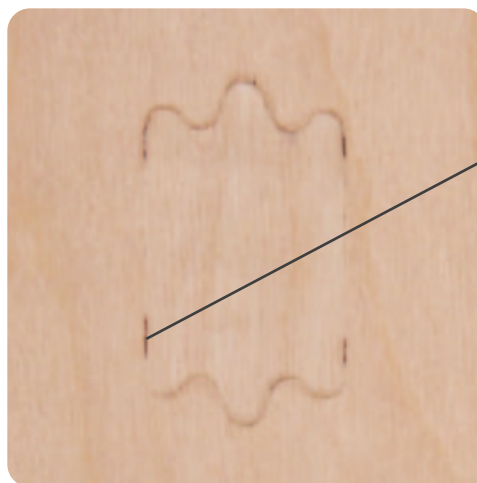


## 12. GLUE SEEPAGE

**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

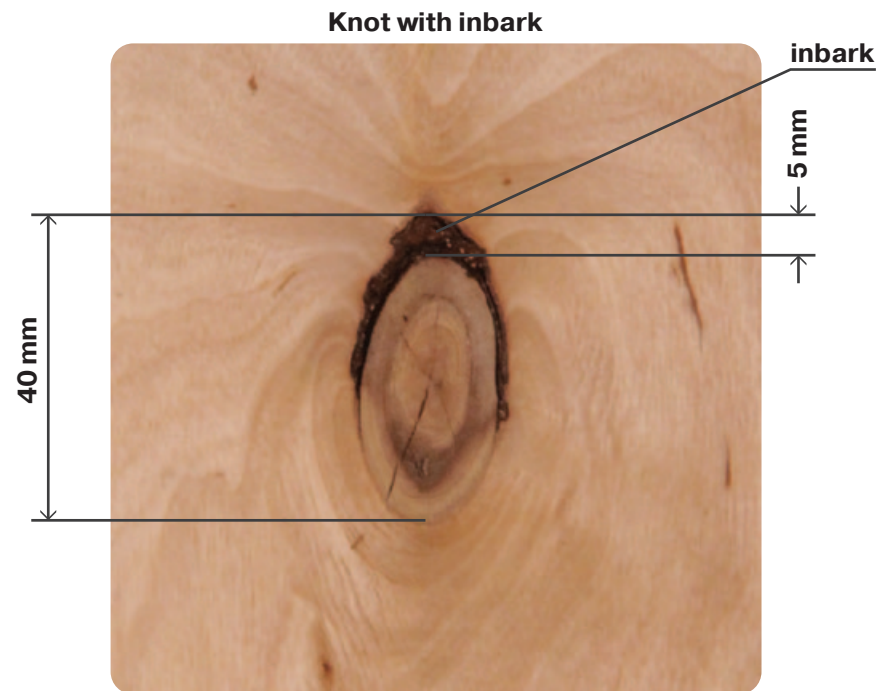


# 16. KNOTS WITH BARK INCLUSIONS, HOLES FROM FALLEN OUT KNOTS

**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.

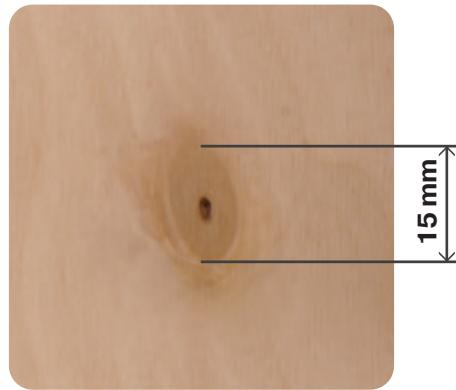


Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.

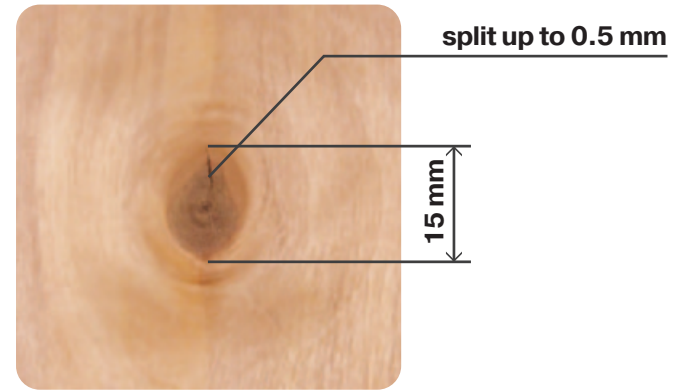
Light knot



Light knot



Dark knot



**B**  
Light ones  
with diameter up to 15 mm  
with chap up to 0.5 mm,  
5 pcs/m<sup>2</sup> are allowable.

**S**  
Light and dark ones  
with diameter up to 15 mm  
with chap up to 0.5 mm,  
5 pcs/m<sup>2</sup> 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 chap up to 1 mm, 10 pcs/m<sup>2</sup> are allowable.

**CP, WGE**

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

**WG, C, CC**

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

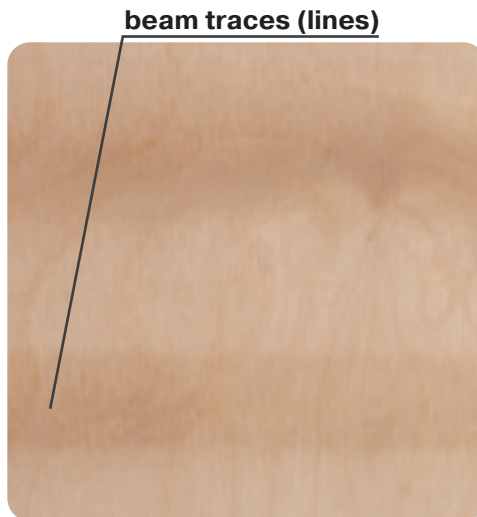
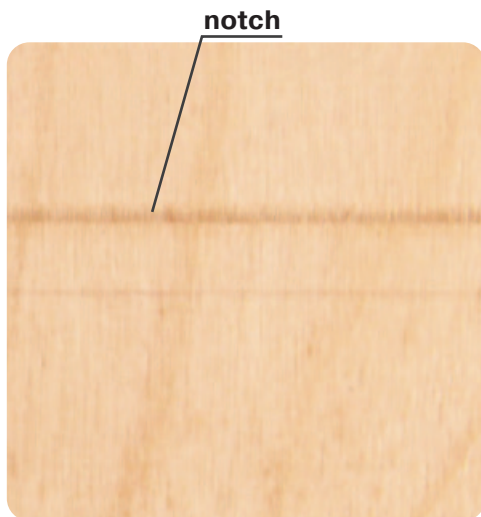


# 18. MANUFACTURING STAINS (BEAM TRACES, LINES)

**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.

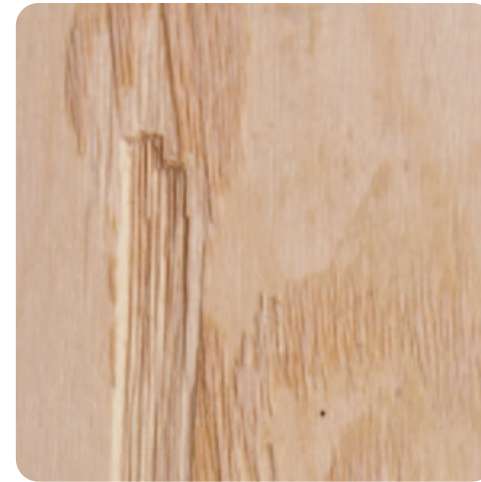
**Split**



**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.

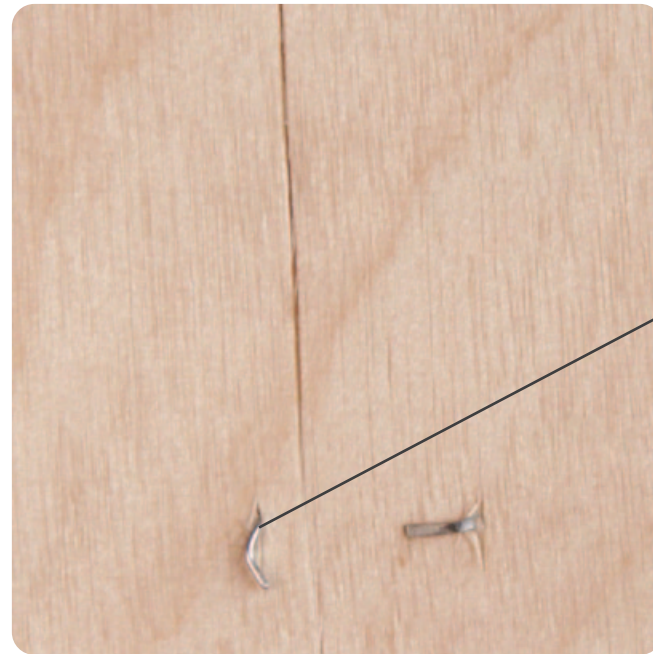


## 20. METAL INCLUSIONS

**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.

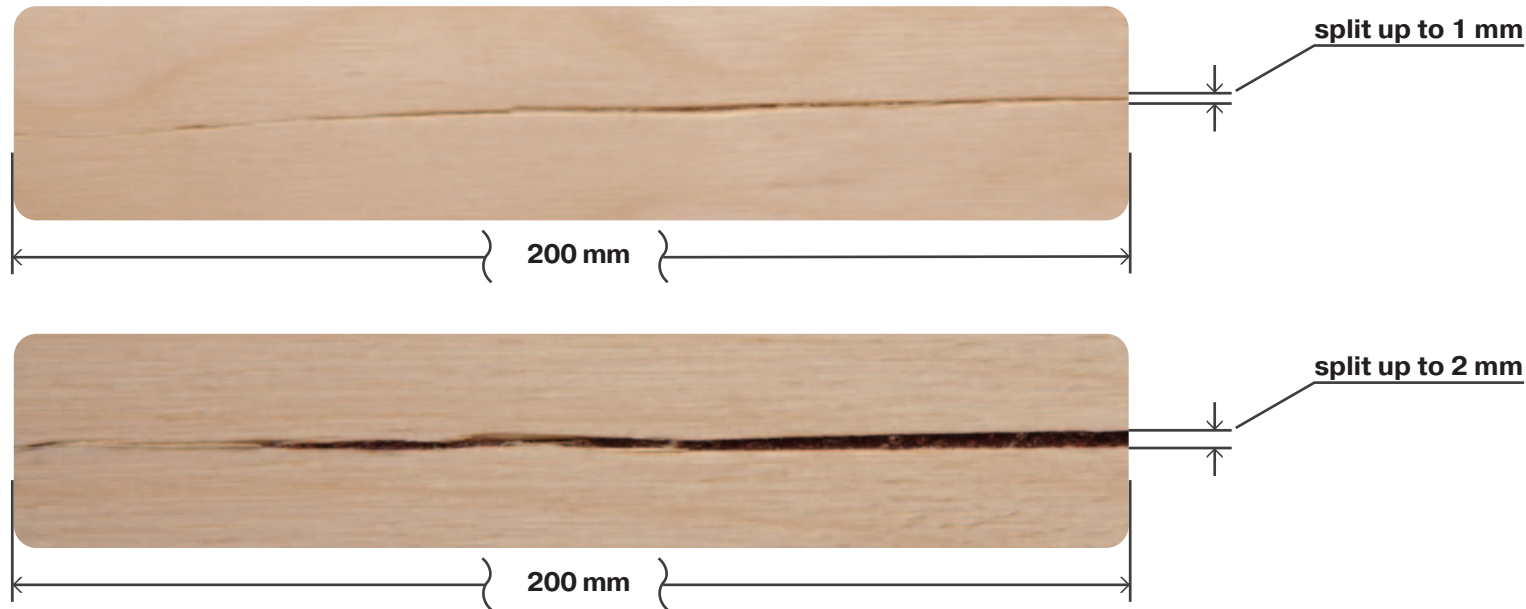


## 22a. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

**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.

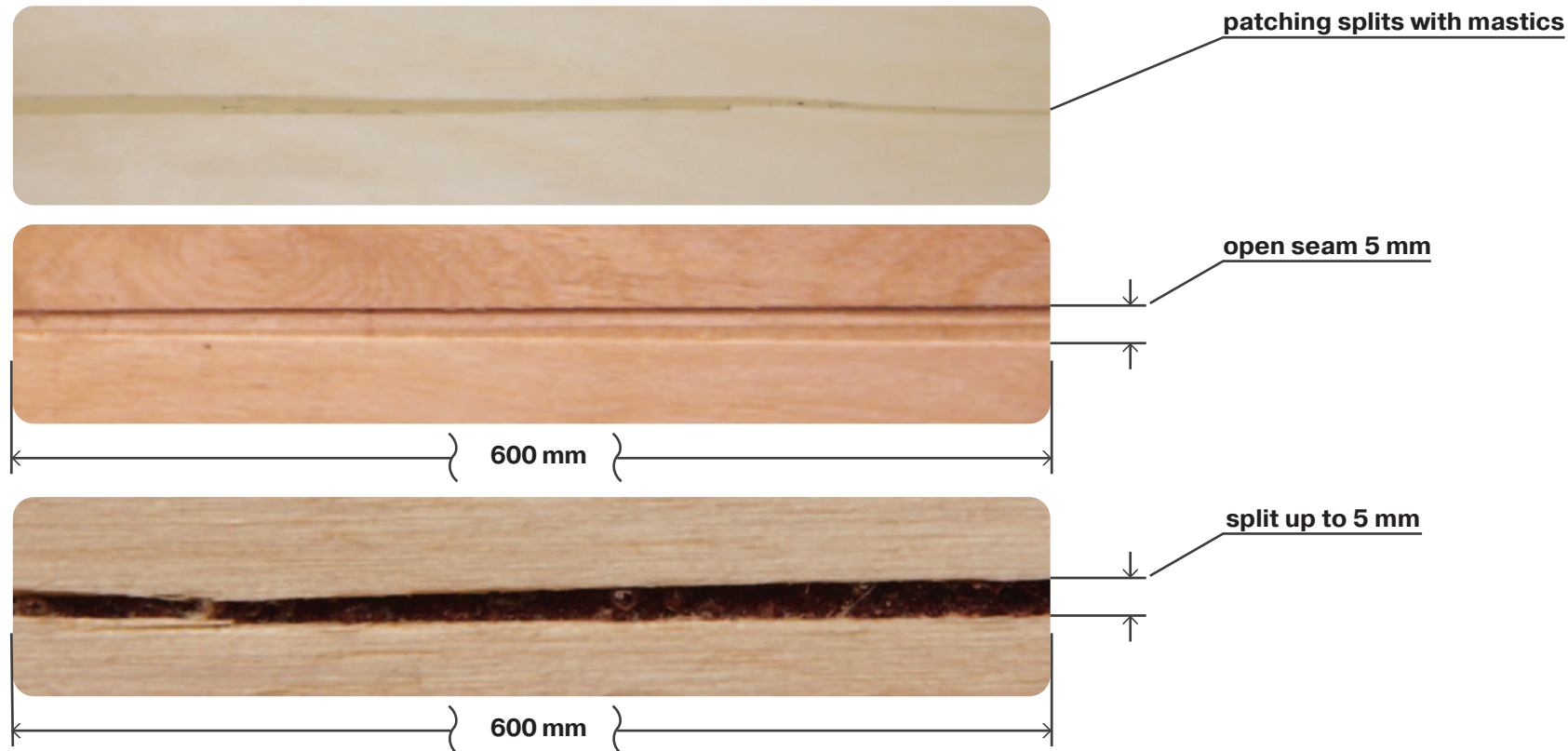


## 22b. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

**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.



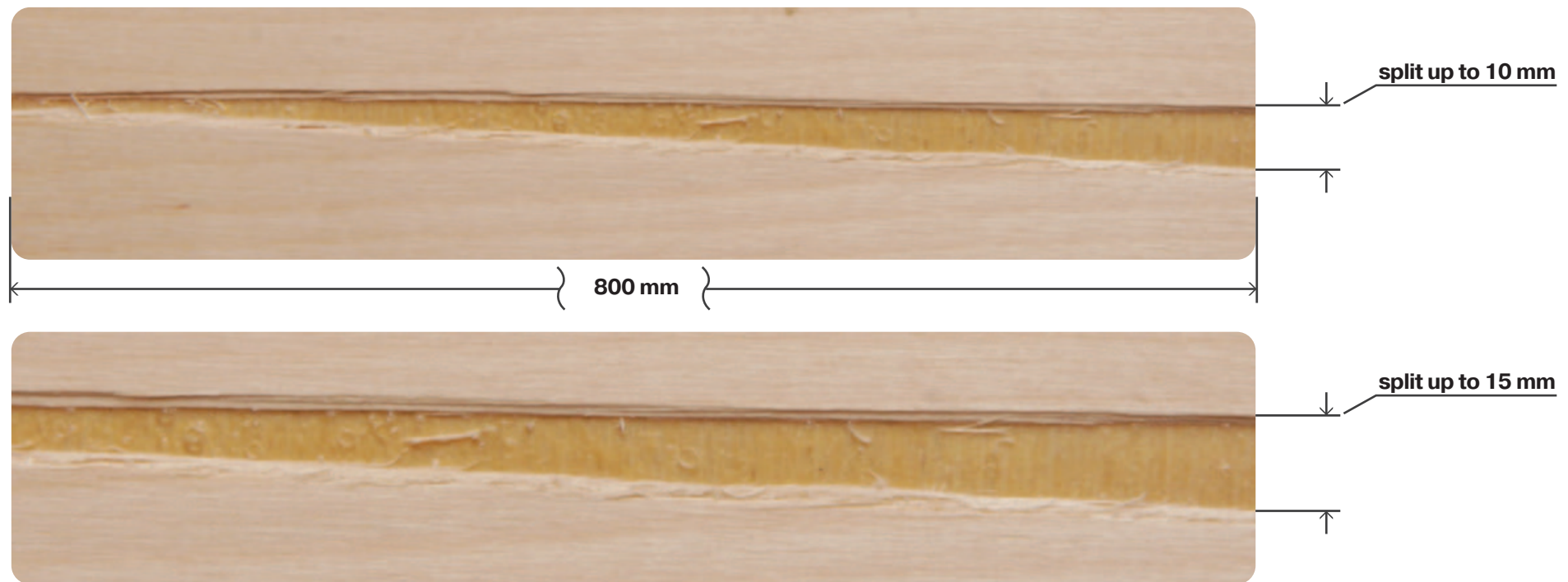


## 22c. OPEN SPLITS, OPEN SEAM ON SPLICED VENEER

**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.

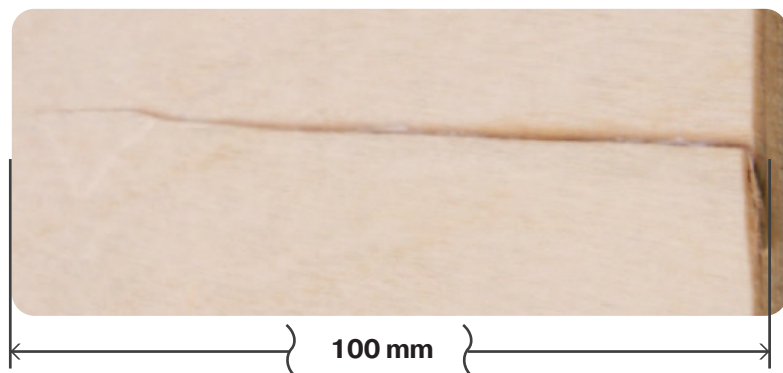
**CC** Allowable with the width up to 15 mm, without number limitations.

## 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.

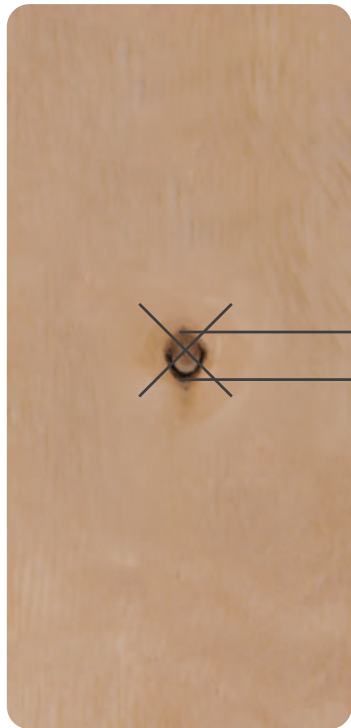


## 24. PARTIALLY INTERGROWN KNOTS

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



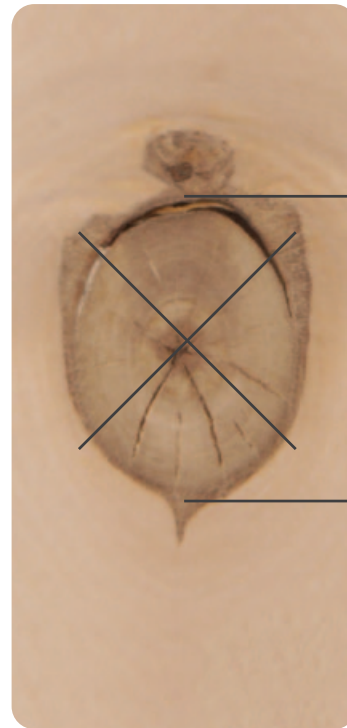
Arithmetical average of minimal and maximal diameters is set as knot (hole) diameter.



6 mm



15 mm



40 mm



70 mm



### **B, S**

Allowable among black knots with diameter up to 6 mm, 3 pcs/m<sup>2</sup>.

### **B Sel, S Sel**

Allowable among black knots with diameter up to 6 mm, 2 pcs/m<sup>2</sup>.

### **BB, BBx, CP, WG, WGE**

Allowable among intergrown knots with diameter up to 15 mm, 10 pcs/m<sup>2</sup>.

### **C**

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

### **CC**

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



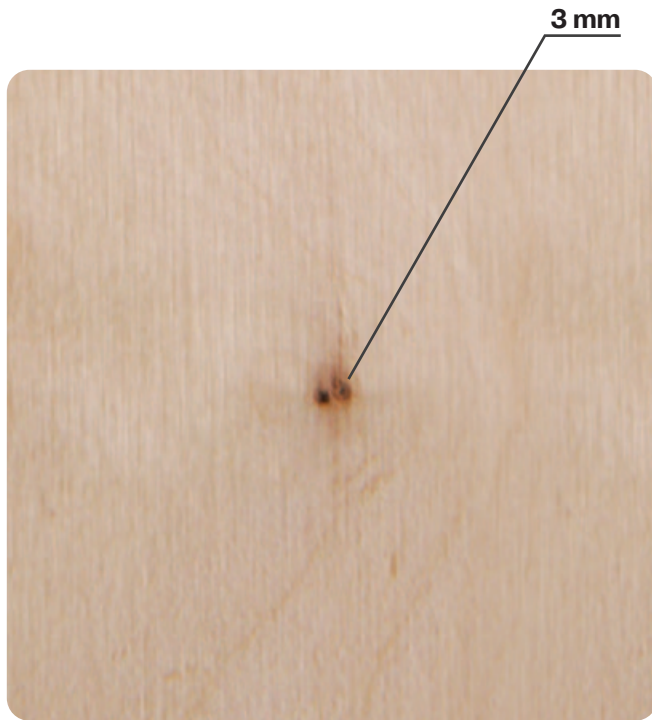


## 25. PIN KNOT

**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.



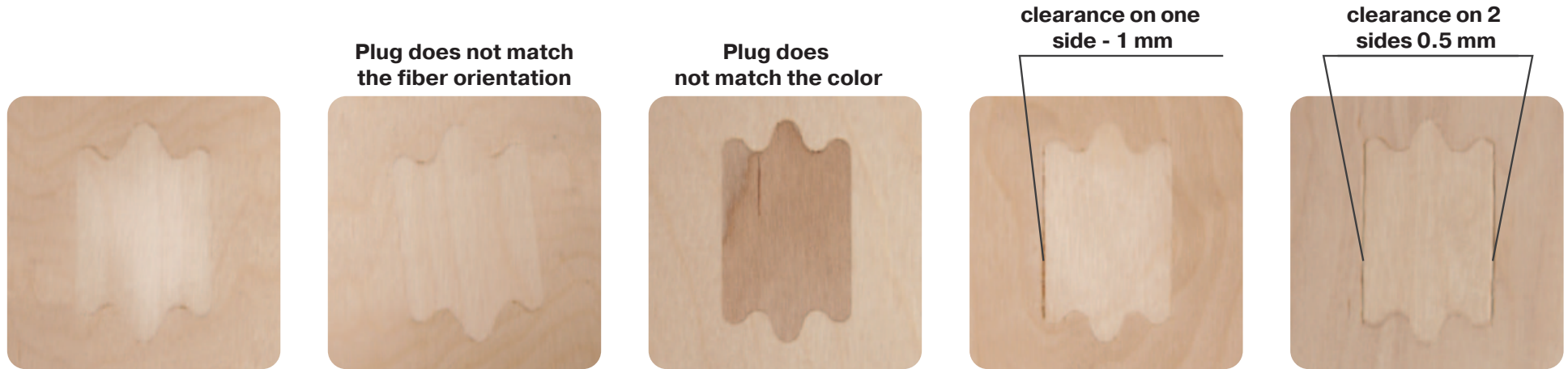
**3 mm**



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/m<sup>2</sup> is allowable with color and grain flow match.

**BB**  
8 pcs/m<sup>2</sup> 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/m<sup>2</sup>.

**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

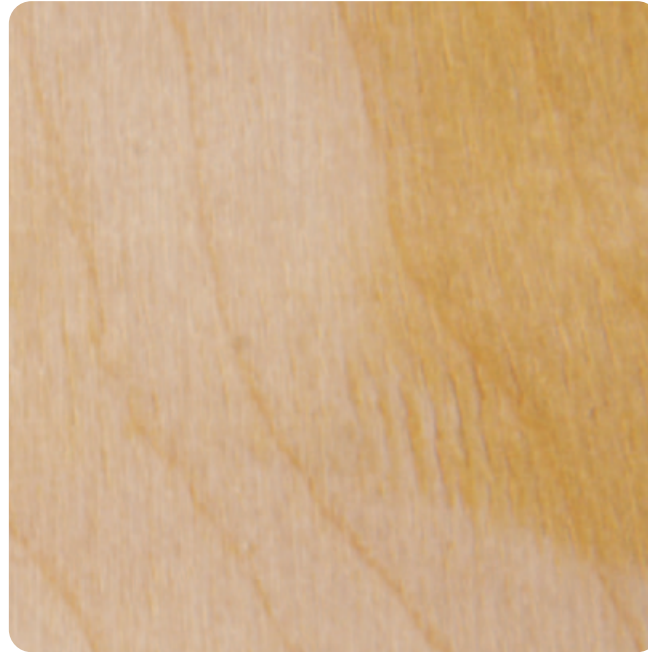
**CP, WG, WGE, C, CC**  
Allowable



## 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



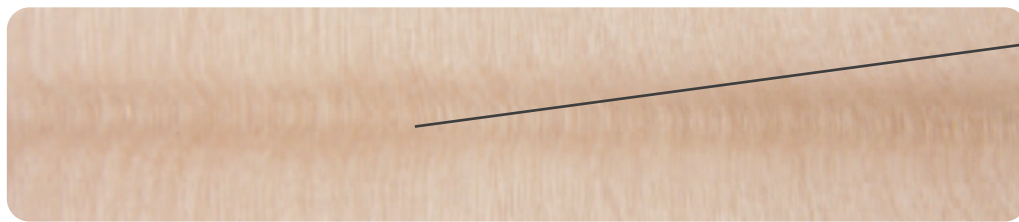
# 30. SCRATCHES, SCARS, PIMPLES, RIDGES

**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.



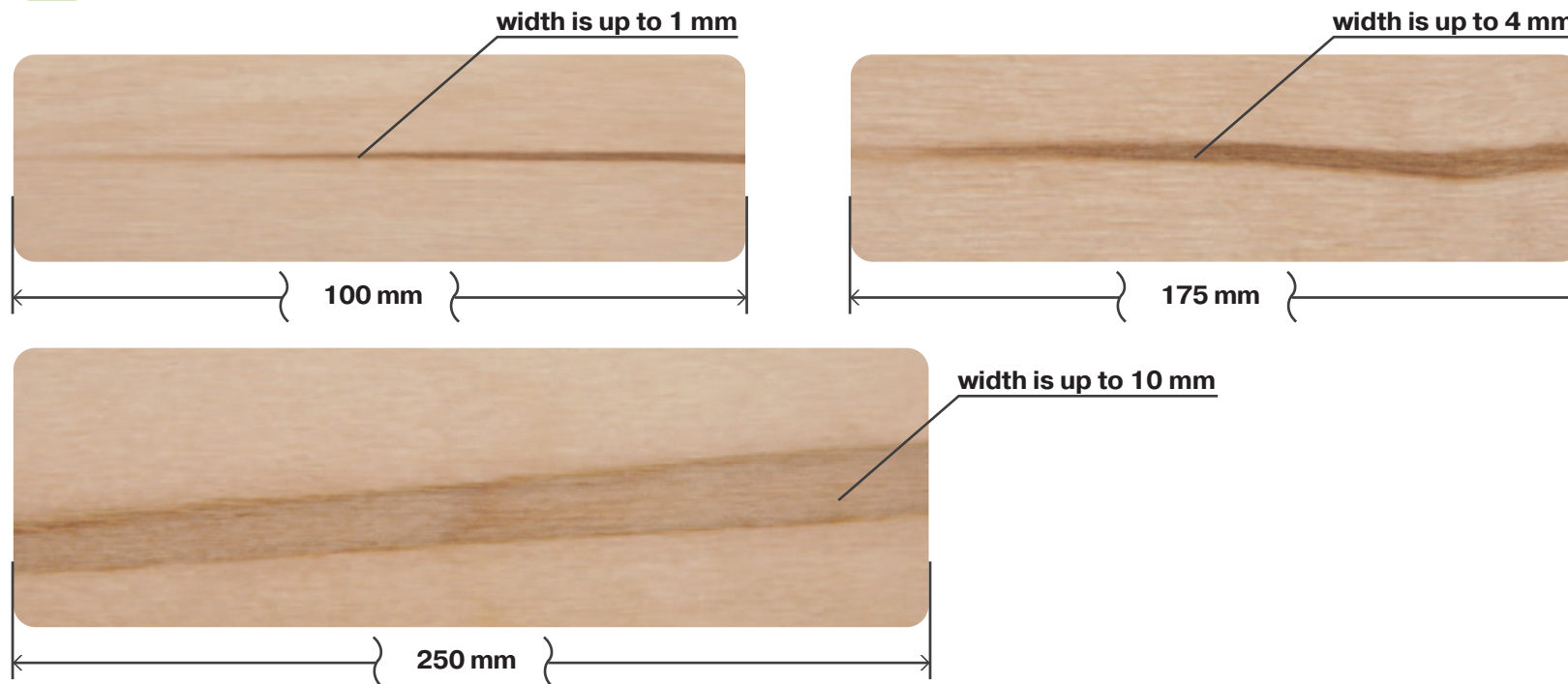


### 33. SOUND COLOR CHANGES (MOTTLES)

**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/m<sup>2</sup>.

**S**  
The light one is allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m<sup>2</sup>.

**B Sel**  
The light one is allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m<sup>2</sup>.

**S Sel**  
The light one is allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m<sup>2</sup>.

**BB, BBx**  
Allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m<sup>2</sup>.

**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/m<sup>2</sup>.

**S**  
The light ones are allowable the length up to 175 mm, width up to 4 mm, 5 pcs/m<sup>2</sup>.

**B Sel**  
The light ones are allowable the length up to 100 mm, width up to 2 mm, 3 pcs/m<sup>2</sup>.

**S Sel**  
The light ones are allowable the length up to 175 mm, width up to 2 mm, 3 pcs/m<sup>2</sup>.

**BB, BBx**  
The light and dark ones are allowable the length up to 250 mm, width up to 10 mm, 10 pcs/m<sup>2</sup>.

**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 m<sup>2</sup>.

### **B Sel**

Not allowable

### **BB, BBx**

The light ones 60x40 mm are allowable, 1 per m<sup>2</sup>.

### **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

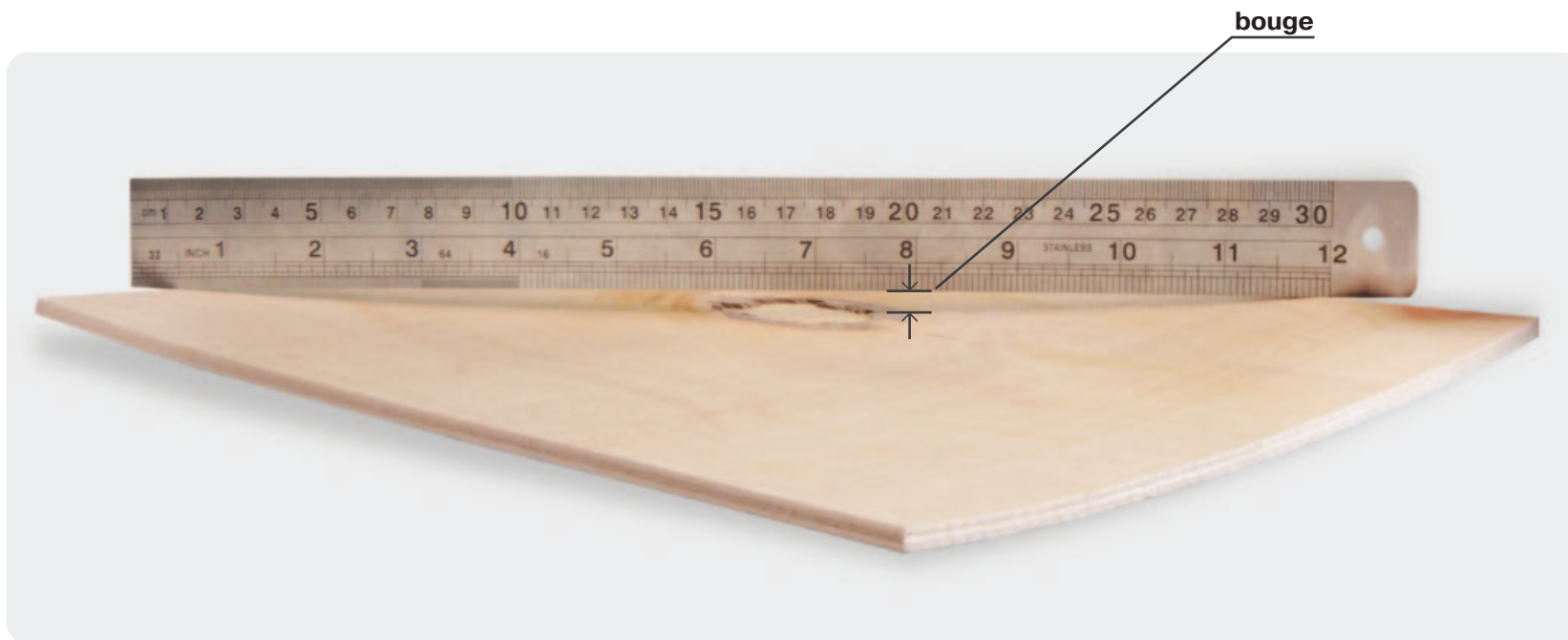


## 37. WARPAGE

**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.

