Izglītības programma: kokizstrādājumu izgatavošana

Kvalifikācija: mēbeļu galdnieks

Modulis: valodas, kultūras izpratne un izpausmes

Skolotājs: Dace Cine

Tēma: **WOOD DEFECTS – koksnes vainas**

Uzdevums: apgūt terminoloģiju:

Defects in wood can be broadly classified into two categories which are as follows:  
  
(A) NATURAL DEFECTS (Knots, Shakes, Cross grain, Compression) – *dabiskās vaina*  
(B) OTHER THAN NATURAL DEFECTS: *cita veida vainas-*   
  
  
**(A) NATURAL DEFECTS:**  
  
**1. Knots (***zari):* Knots are common types of natural defects- live knots(*dzīvie*) and dead(*atmirušie*) knots.  
  
*Classification of Knots(zaru klasifikāciaj):*  
(i) Pin knots: less than 6.5 mm in diameter.  
(ii) Small knots: 6.5mm to 20mm in diameter  
(iii) Medium knots: 20mm to 40mm in diameter  
(iv) Large knots: above 40mm in diameter  
Knots spoil the appearance(*bojā materiāla izskatu*) and reduce the strength(*samazina stiprību*) properties of wood.

**2. Shakes** *(gareniskās plaisas):* A separation of fibre along the grain of standing or freshly felled timber is called shakes. This forms crack or fissures that is generally confined to the interior part of the timber but sometimes extends to one surface.  
*For example:* If a tree is growing in high wind areas, different stresses are set up inside it. A tension occurs on the windward side whereas compression occurs on the leeward side. If the tree is not sufficiently elastic, then separation of tissues takes place inside the trunk.  
  
**3. Cross grain**(šķērsškiedrainība): This is general term depending the deviation of the wood fibres from a direction parallel to the longitudinal axis of the tree. This can be diagonal, spiral or interlocked types in nature.  
  
**4. Resin pocket(**sveķu ailes**):** Due to excessive accumulation of resin, resin patches are found in wood is called resin pocket.  
  
**(B) SEASONING DEFECTS (***laika apstākļu ietekme):* This is caused by faulty techniques of seasoning. The different types of permanent distortion of timber and ruptures of tissues (audu sarukums) constitute separately or together, they are referred as seasoning defects.  
  
*Types of seasoning defects:*  
  
**(a) Warping(***vērpe):* The distortion in converted timber caused departure from its original plane usually during seasoning period is called warping. Warping can be culping, bowing, twist, string.  
  
**(b) Check, Split and Shakes(**plaisas)**:** These are the examples of separation or ruptures of the wood along the grain. These three forms differ in whether the crack is confined to the interior of the wood or extends to the surface.  
  
• *Check:* In check, there is a separation of fibres, which crack or fissures do not extend through the piece from one face to face of wood. This term is applicable for the converted timber.  
  
• *Split:* Crack extends from face to face of the wood. An end split is one that occurs at the end of log or a piece of timber.  
  
• *Shakes:* Separation of wood fibre along the grain and occurs in different shapes such as star, ring, etc. Shakes may be Heart and Star shake, Radial shakes and Cup and ring shake.  
  
**(C) FUNGAL DEFECTS(***sēņu bojājumi):*  
  
**(a) Stain(***krāsojums)***:** Fungi causing stain in wood, when it feeds only on food materials stored in the sapwood. In this case, fungi do not attack the heart wood which normally does not contain food material within the cell. Stain defect does not affect strength properties of wood(*sēņu iekrāsojumi neietekmē materiāla izturības/cietības īpašības).* *For example:* Ceratocystis.  
  
**(b) Decay(***trupe):* This is observed due to wood destroying or wood rotting fungus of wood. These fungi nourish cell wall material and break down the cell structure and enzymatic activities. Decay fungi attack both sapwood and heartwood. This defect reduces the strength properties of wood.  
  
**(D) DEFECTS DUE TO INSECTS** *(kukaiņu bojājumi):*  
  
**(a) Insects**(kukaiņu): Insects borers and termites together constitute one of the most destructive biological agencies causing defects in timber. Some insects infest standing trees others infest felled logs before conversion or converted timber. The damage is visible in the form of tunnels and wood dust packed galleries in timber.

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