INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563
eISSN 2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 10, issue 12 (2023)

TYPES AND PROPERTIES OF WOOD USED IN CARPENTRY

Xayitov Jonibek Xolboboyevich

Termez State University lecturer

E-mail: xayitovjonibek77@gmail.com

Annotation: This article provides information on the types and properties of wood used in carpentry.

Keywords: Technology, science, lesson, carpentry, method, exercise, thinking, creativity, wood, quality, type, texture.

Today, the types of wood used in carpentry and their properties are considered very important in the process of making carpentry items. So we need to be able to distinguish between types of wood and trees from which Wood is extracted well. The wood of each tree differs from each other in its hard - softness, heavy - lightness, density, resistance to various influences, ease of processing, appearance, color and other signs. Trees from which Wood is extracted are classified into needle-leaved and deciduous (deciduous) species. Needle-leaved trees include curlew, pixta, larch, spruce, cedar. Each of these trees in turn is divided into several types. For example, about 100 species of pine are known in the world, about 40 species of PIXTA, more than 20 species of foxtail, about 45 species of Spruce, 4 species of Cedar, about 20 species of Cypress.[2]

From the likes of pine, pixta, larch, boards of various sizes, beams, rakes are mainly made. Such wooden materials are used to make the necessary parts of the castle, make doors and windows, etc.various wooden items.

Needle-leaved pine and pixta soft rest give hard wood. Deciduous trees also form soft, hard, or brittle wood. They are used in building construction and making various items. For example, a type of Poplar, mountain maple wood, is used to make matches, skis, oxen, and for other purposes. Deciduous trees, of the most hardwood-giving species,are grown in Uzbekistan, such as pine, pear, Mulberry, Birch, apricot, peach, Maple, Linden, Beech, Acacia and others, and from fragile wood-giving species such as maple, oak. When they make furniture and other objects, they are used in wood carving.

The use of any wood will depend on its physical and mechanical properties, conditions of use, quantity, etc. As a result of the progress of the technique, there are constant changes in the Sox of the use of wooden materials. Even in the coming days, wood is the main building material. The use of prefabricated reinforced concrete multiple structures in construction and structures greatly reduces the extensibility to Wood. However, in the wood pulp industry, the main material is obtained in the current vaccine.[2]

Also, the economic importance of some timber is increasing. While the Swan was used only as wood until recently, it is now a valuable material in plywood manufacturing enterprises and other industries.

All woods are divided into deciduous and coniferous groups depending on the type of trees from which they are obtained.

In constructions, wood from trees such as pine, juniper, spruce, and cedar are often used.

Due to a number of advantages, the wood obtained from Nina trees is the main material in construction and carpentry works. Its advantages are as follows: due to the presence of resinous substances in the composition of the pine wood, it has a long service life and does not rot. Deciduous forests are more common than deciduous forests, and since deciduous trees are lighter than deciduous trees, they are easy to move from one place to another. Nina hardwoods are easier to work with because they are softer than hardwoods.[4]

The trunk of Nina deciduous trees is straight and smooth, and good quality logs are made from them.

Some hardwoods are used in construction and carpentry, along with hardwoods. For example, oak, shumtol, purple, poplar, maple, zirk and others. Oak tree is distinguished from other woods by its high density, fine and hard beautiful texture, resistance to moisture.

The type of growing trees can be distinguished by their bark, structure of branches and leaves. The types of wooden materials used in construction and carpentry, such as beams and boards, are determined by their color, natural grain, grain, and hardness.

Below we will get acquainted with the types, external signs and properties of some deciduous and coniferous woods used in construction and carpentry.

PINE (pine) The bark of pine is thick, dark brown, woody white - reddish, straight layered, light, smooth, resinous, resistant to moisture. , annual rings can be clearly seen.

JUNIPER - The bark of the juniper tree is thick, dark gray, and the wood is hard to work with. Since it is a soft layer, the core rays are not visible. Low tar, resistant to moisture. Juniper is used in construction, in the pulp and paper industry, in the production of simple furniture and tares.

Tilogoch - The bark of Tilogoch is thick, dark-yellow in color. The wood is soft-layered, the annual rings are clearly visible, reddish in color, it is finer than pine. It is difficult to work because of excess tar. It is used in hydrotechnical constructions, underground constructions, sleeper preparation. It can be used instead of oak wood in construction and wagon making.

WHITE PINE - (cotton). The bark of white pine is thin, smooth and gray. The wood is smooth, dark, rough, soft and easy to work. It is often used in the paper industry and in the preparation of tares.

CEDAR — The bark of cedar is thick, rough, and brown in color. The wood is light, soft, easy to work with, colorful and beautiful with natural flowers, annual rings are clearly visible from all cuts. It is used in construction, carpentry along with pine and spruce, and pencils are made from it.[7]

ZIRK - (beech) The bark of the black beech is dark, thick and scaly, while the bark of the white beech is clear and smooth. The wood turns red quickly in the open air, dries quickly: it is soft, light, easy to work with, resistant to moisture, annual rings are clearly divided. Zirk wood takes paint well, it is easy to work with redwood, walnut base, and walnut. The big disadvantage of zirk is that it is easily eaten by worms. Cheap furniture, plywood and tares are made from it.

Properties of wood.

Properties that do not affect the integrity of the material and do not change its chemical composition are called physical properties of wood.

The properties of wood include its color, tempering, texture, smell, moisture, moisture, density, moisture permeability, heat conductivity, sound conductivity, including electrical conductivity. The properties of wood are divided into three types: chemical, physical and mechanical.[3]

Color is one of the important properties that allows to determine the types of wood materials and their qualities. The color of wood depends primarily on its type and growth conditions. Most woods (birch, willow, purple, poplar, juniper) have a dull color and light traces. Oak, dark brown; black birch acacia white reddish; it will be nutty, pine-dark.

Wood burning. Due to the core rays, the wood is tanned depending on their direction and density. Lacquering, polishing and waxing are performed to artificially increase the tanning of the wood.

Natural grain (texture) of wood. As a result of the cutting of wood fibers, core rays and annual rings, the natural color of the wood is revealed during sawing.

The smell of wood. Wood has a different smell depending on the presence and amount of resins, essential oils, cooking acids in it. The core of the wood has a sharp smell and contains a lot of the above substances. Freshly cut trees, as well as coniferous trees, have a sharper smell. As the wood dries, it becomes odorless, sometimes the smell changes. The change in smell also depends on the decay of the wood.

Wood moisture. Moisture is one of the main factors necessary for the life and growth of a tree. Moisture is more or less depending on the growth conditions and type of tree, whether it is fresh cut or old cut, dried or not dried.

Wood drying. Wood contains free and bound water. The water that fills the internal spaces of wood, that is, the space inside and between the cells, is called free or capillary moisture, and the water absorbed by the cell membranes is called bound or hygroscopic moisture.

Wet drying of wood. If dry wood is stored in dry rooms or in the open air, it will absorb moisture and increase in size, volume, weight, and change its shape.

Wood density. This property of wood is related to its weight and depends on the amount of moisture and air in the wood. The less moisture and air in the wood, the denser it is.

Sound permeability refers to the ability of wood materials to transmit sound. Wood has a high sound transmission capacity. Sound travels 15-18 times faster in the direction of wood fibers than in air, and 3-6 times faster in width.

Thermal conductivity. The ability of wood to conduct heat is called thermal conductivity. Wood conducts heat poorly compared to other materials.[6]

Wood is the main material that makes a tree, it has the ability to transfer water and other substances in the trunk of the tree in the necessary directions, and it performs the function of supporting the weight falling on it. After the tree is cut, the water between the wood tissues starts to dry out due to the heat. In this case, if the water comes out evenly and at the same intervals between all the tissues of the wood, the wood will dry without cracking. If, on the other hand, more water comes out from the tissues of one part of the wood, and less from another part, and moreover, water from different parts of the wood does not come out at the same time, the wood body does not dry evenly. As a result of this, cracks appear in the wood body, twisting or bending of the wood occurs.[8]

Conclusion: The types of wood used in carpentry today and their properties are very important in the process of making carpentry products. Therefore, we should be able to distinguish between types of wood and trees from which wood is harvested. The wood of each tree differs in hardness - softness, heavy - lightness, density, resistance to various effects, ease of processing, appearance, color and other characteristics. Timber trees are divided into coniferous and deciduous species. In conclusion, having a good knowledge of the types of wood used in carpentry and their properties, having more information about them will not cause difficulties for young carpenters in the process of making products from wooden materials.

List of used literature

1. Mirziyoyev Sh.M. We will build our great future together with our brave and noble people. "Uzbekistan" 2017.

2. Shomirzayev M.Kh. Innovative pedagogical technologies in teaching technology. Textbook.. - T.: "TerDU publishing-printing center", 2020. - 226 p.

3. Shomirzayev M.Kh. Ways to improve the effectiveness of technology education. Methodical guide for teachers. - T.: 2019. - 72 p.

4. Ishmuhamedov R.J. Ways to increase the effectiveness of education with the help of innovative technologies. - T.: TDPU named after Nizami, 2005.

5. A. Abdukadirov, R. Ishmuhammedov. "Innovative technologies in education" T.: 2008. - 128 p.

6. Shomirzayev M.Kh. Innovative pedagogical technologies in teaching technology. Textbook.. - T.: "TerDU publishing-printing center", 2020. - 226 p.

7. Khaitov J.Kh. Scientific-pedagogical bases of the implementation of career guidance in technology classes. Monograph. - T.: Termiz State University NMM Publishing House, 2022.

8. Abdullayeva K.T., Nurmamatov Z.Sh., Khaitov J.Kh. Product preparation technology. Study guide //-Tashkent.-2022-y. Lesson Press (Order of the Rector of Karshi State University No. 2751 dated December 27, 2022).