

MENSURATION OF ROUND TIMBER IN UKRAINE: HISTORY, CURRENT STATE AND PROSPECTS

Ukraine is a state with a small area of forests. The total area of forests is about 10 million hectares, forest cover is almost 16%, and the wood stock is estimated near 1,8 billion m³. Despite the low percentage of use of annual growth (the total average increase in stock is about 35 million m³ of wood), on average, Ukraine harvests 15 million m³ of wood annually. That's why the issues of accounting for wood in general and establishing its quality and size characteristics are relevant [1, 2].

Since Ukraine's independence, forestry has inherited Soviet standards, which have been used for a long time. However, the entry of Ukrainian forest products into European and world markets necessitated the development of new regulations that would be compatible with international requirements.

On January 1, 2003, the gradual harmonization of Ukrainian standards with the basic requirements for timber on the European market began, in particular, came into force [2]: DSTU EN 1315-1-2001 «Classification by size. Part 1. Hardwood round timber» (EN 1315-1: 1997, IDT); DSTU EN 1315-2-2001 «Classification by size. Part 2. Softwood round timber» (EN 1315-2: 1997, IDT); DSTU EN 1309-1-2001 «Round and sawn timber – Method of measurement of dimensions» and DSTU EN 1311-2001 «Round and sawn timber – Method of measurement of biological damage».

DSTU EN 1315-1-2001 was an identical translation of EN 1315-1: 1997 «Dimensional classification - Part 1: Hardwood round timber» and established a general classification according to the size of felled deciduous timber and determined their designation. According to this standard, round deciduous timber was classified according to the middle diameter of logs with bark (R) or without bark (D). If the logs were classified with bark, the seller had to indicate an appropriate correction that would allow the volume of bark to be ignored. The formula for determining this amendment was specified in the standard. In turn, DSTU EN 1315-2-2001 was an identical translation of EN 1315-2: 1997 «Dimensional classification – Part 2: Softwood round timber». The standard established a general size classification for round timber of coniferous wood species, which was not related to their purpose. It was introduced instead of GOST 9462-88 (in part of paragraph 1.2, which is technically obsolete and does not meet European requirements). According to this standard, the size classes for round wood are

based on the diameter under the bark, which was measured in accordance with pr EN 1309.2.1994. The division into classes was carried out according to the two tables given in DSTU: classification by middle diameter; length classification.

In 2007, seven more new state standards were introduced, some of which have already expired due to their replacement. However, according to the resolutions of the Cabinet of Ministers of Ukraine № 695 of 09.12.2014, all current interstate standards in Ukraine (GOST), developed before 1992, were abolished [2]. This is due to the fact that the national legislation of Ukraine, as a member state of the World Trade Organization (WTO), implements the provisions of the WTO Agreement on Technical Barriers to Trade, in particular the Code of Good Practice for the development, adoption and application of international and European principles of standardization. In this regard, to replace GOST 2708-75 for the mensuration of merchantable round timber was introduced DSTU 8416:2015 «Round timber. Volume tables». However, this standard was abolished in 2019, which was due to the further transition of Ukrainian forestry to European standards for classification and measurement of timber and lumber. Their approaches to determining the size and quality characteristics of timber and lumber have changed significantly. Previously, merchantable timber (round timber) in Ukraine was divided into three quality classes and a number of assortments according to their purpose, from 2019 – divided into four quality classes (A, B, C, D), as in European countries, without determining their scope of use. New national standards are harmonized with European ones. They are based on indicators of the size and quality of logs. Thus, during 2019–2021, new regulations for the classification of round timber of the main deciduous and coniferous species were developed and implemented, but they do not include the classification of wood for all tree species.

An electronic timber accounting system (hereinafter – ETAS) has been developed and implemented in Ukraine for wood accounting. ETAS is a system of recording and registration of the movement of wood resources with the use of automation at all stages of logging with the entry and transmission of accounting information using modern information technology for further use at different levels (management, accounting, etc.). Its implementation since 2013 is regulated by a number of regulations [1]. However, from 2022, the system of electronic timber accounting is mandatory for all forest users (according to the order of the Ministry of Environmental Protection and Natural Resources of Ukraine № 621 of 27.09.2021 «On approval of the Instruction on ETAS»). The ETAS process is based entirely on electronic document management. The software that allows you

to control the stages of movement of wood, where all accounting information is transmitted electronically is its basis. An important result of ETAS is a significant reduction in paperwork and various types of reporting between production units of the enterprise and automated data transfer to a central server.

The implementation of the ETAS system in Ukraine was made possible with the full support of Latschbacher Ukraine company, which provided not only software development, but also the development of hardware at the central level of the system. Today, Latschbacher on the basis of WinforstPro carries out a set of works on the development and implementation of innovative solutions, which have been highly praised in the relevant ministries and are part of Ukraine's economic reforms [1]. In general, ETAS makes it possible to fully review the chain of movement of harvested timber from the place of its harvesting to the final consumer.

Despite significant changes in timber accounting, a number of issues remain unsolved in Ukraine today [1, 2]. In particular, are relevant the issues of developing standards for timber accounting for different tree species taking into account their regional growth characteristics, technical problems with the measurement of round merchantable timber (measuring the diameter in the middle of logs) and the functioning of the ETAS system (the lack of connection for data transmitting, simplified system of correction of erroneously entered information, acceleration of processing of appeals to operators), financial component of ETAS system functioning, possibility of further use of ETAS data (open access) for regulatory authorities (police, fiscal authorities, road services), customs (simplification of cargo clearance system), the public.

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