

Section 03. Legal Issues

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Electronic Digital Signature in Protecting Documents and Goods

To protect information from deliberate or accidental distortions in electronic document circulation, electronic digital signature (EDS) is widely used.

The electronic digital signature is formed according to a standard algorithm using the secret key of the marker. It is unique and guarantees the integrity of the control and accounting information from forgery. Attempts to change at least one bit in the control-accounting information or in the electronic digital signature will be revealed during the verification.

General concepts of this protecting method are the following:

- *Electronic digital signature* is a special requisite of the document, which makes it possible to establish that there is no distortion of information in the electronic document since the formation of the electronic digital signature and to confirm the ownership of the electronic digital signature by the owner. The value of the props is obtained in a result of cryptographic transformation of information.
- *The certificate of electronic digital signature* is a document that confirms the ownership of the public key (verification key) of the electronic digital signature to the certificate owner. Certificates are issued by certifying centers or their authorized representatives.
- *The owner of the electronic digital signature certificate* is an individual, in whose name the certificate is issued in the certifying center. Each certificate holder holds two EDS keys: closed and open.
- *The private electronic digital signature key* (EDS key) allows you to generate an electronic signature and sign an electronic document. The owner of the certificate is obliged to secretly store his private key.
- *The public key of the electronic digital signature* (the verification key of the electronic digital signature) is uniquely associated with the private key of the electronic digital signature. It is intended to verify the authenticity of the electronic digital signature.

According to the Federal Law №63-FZ "On electronic signature", there is a division into: simple electronic signature enhanced unqualified electronic signature and enhanced qualified electronic signature.

Thus, the use of electronic digital signature in combination with other protective technologies allows solving the task of protecting goods, products and documents from falsification. It also allows to automate the processing of paper documents, to apply the instrumental methods of controlling the authenticity of security signs that ensure the objectivity of inspections.