ELECTRONIC CUSTOMS SEALS

Электронные таможенные пломбы

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Rapid technological developments, globalization of international trade, as well as increasing inter-dependence of global value chains have led to advances in container security devices and presented new opportunities for their strategic integration within the international supply chain for improving its visibility, integrity, security and facilitation. Some Customs administrations and stakeholders are already exploring new means for cargo security by employing various kind of electronic seals (e-seals).

E-seals combines mechanical security of standard seals with the electronic security. E-seals have unique ID code and read / write user memory capabilities. It brings together manual seal elements with electronic characteristics to enhance seal integrity, store data, and provide real-time communication and information. Some designs use infrared signals and others use direct contact information and communications technologies, but currently radio frequency identification (RFID) is in most common use. Some of the e-seal designs automate the essential functions of seal checking and reporting in order to minimise human intervention. The status of the seal (tampered / not tampered) is immediately detected when it passes through a gate or by manual inspection with a mobile reader in combination with smartphones or tablets.

There are several types of e-seals, for example passive, active and semi-active. Passive e-seals are without battery, whereas active e-seals have battery. Passive seals do not initiate transmissions; they respond when activated by the energy in the signal from a reader. The advantage of a battery-free passive seal is that it can be a simple, inexpensive, and disposable device.

Active seals, on the other hand, can initiate transmissions as well as respond to interrogation. They monitor seal integrity on a real-time basis, and most capture the time of tampering and write it to an on-board log. Some can accept global positioning system (GPS) and sensor inputs, and some can also provide live tampering reports as the events happen.

Some e-seals can be opened only with a corresponding electronic key received over high-security data links at the destination site. Some others can send data about potential tampering and where it might have occurred via GPS in combination with satellite or cellular networks, before cargo is loaded into a carrier, en route, and after it arrives at its destination.

Recently radio-frequency technologies, including active RFID and passive RFID, have emerged to provide close-range capabilities. The core benefits are that it provides identification without requiring line of sight, can be read at short to very long range and can be encoded with significant amount of data. Passive and active e-seals can also be combined with GPS, satellite and cellular services, such as GSM (Global System for Mobiles), with a possibility to alternate between communications as needed.

The simplest type of e-seals contains only a seal ID number. The most common technology for such an e-seal is passive RFID, which requires an appropriate reading device and software. More advanced reusable or permanent active RFID e-seals also include a seal ID number, and a container ID number, and can initiate alarm calls and record time/date of container tampering. Smart e-seal or CSD contains a seal ID number, a container ID number, and additional sensors to indicate the environmental status of container content, an alarm function to inform in real time and satellite communication via GPS/INMARSAT systems.

E-seals hold promise, particularly if they can be integrated with an active alarm system and GPS tracking. One advantage of the electronic seal is that it is capable of recording the time of the breach or tamper event, as well as the location, if equipped with GPS technology. E-seals can serve both commercial and security interests by tracking containers from their point of origin, while en route, and to their final destination and point of Customs clearance including different Customs processes such as transit and movement to/from port terminals, special Customs zones, and warehouses without Customs escorts.

E-seals enable traders to track goods in transit through the port to inland container depots, container freight stations, and to end-users, thus lowering logistics costs, due to improved predictability and optimization of cargo flows.

An e-seal could potentially be an important part of a multi-layered security system that ensures safety and security, provides end-to-end tractability, and protects against theft, pilferage and smuggling. With the various types of e-seals combined with RFID, it is possible to enhance container security, as well as to improve container visibility and transportation efficiency throughout the supply chain.

E-seals could also provide the basis and impetus for green lane concepts that are being pursued by some Customs administrations. Data generated by e-seals including geospatial data can support time release study (TRS), as well as some advanced concepts like advanced targeting and predictive analytics using Artificial Intelligence (AI) and Machine learning (ML) in a blockchain environment.

At present there is no international standard for e-seals or Container Security Devices (CSDs) and they are not widely used by customs administrations or private industry, inter alia, because of the current lack of global frequencies and technical specifications for e-seals. The International Organization for Standard-

ization (ISO) is working towards developing a standard for e-seals that may also apply to CSDs. Businesses are using e-seals for improving overall supply chain efficiency including through streamlined Customs processes. At the same time, Customs administrations are exploring various opportunities for the use of e-seals for enhanced supply chain integrity.

Литература

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CUSTOMS VALUATION: CHALLENGES FOR DETERMINATION

Таможенная стоимость сложности определения

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The process of importing and exporting goods is an integral part of the development of any state. Customs valuation of goods plays a significant role in Customs regulation. *Customs valuation* is a Customs procedure applied to determine the Customs value of imported goods. [1]

The customs value of imported goods is determined mainly for the purposes of applying ad valorem rates of Customs duties. It constitutes the taxable basis for Customs duties. It is also an essential element for compiling trade statistics, monitoring quantitative restrictions, applying tariff preferences, and collecting national taxes.

Customs valuation systems have been the subject of number of international harmonization and standardization efforts. International efforts toward harmonization began in the early 20th century, but significant results did not come until the 1947 General Agreement on Tariffs and Trade (GATT) [2, с. 95].

In 1950, at the initiative of several Western European countries, the Convention was concluded on the creation of a unified methodology for determining the Customs value of goods (Brussels Convention on Customs Value). However, in the early 1970s, multilateral trade negotiations within the framework of the Tokyo GATT round ended with the adoption in 1979 of a number of agreements among which was the Agreement on the Application of Article VII of the GATT, otherwise referred to as the GATT Customs Value Code.