

TECHNICAL MEANS OF CUSTOMS CONTROL

ТЕХНИЧЕСКИЕ СРЕДСТВА ТАМОЖЕННОГО КОНТРОЛЯ

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Customs Administrations are responsible to counteract smuggling weapons, drugs, violation of customs laws, international terrorism and financial clandestine dealings. Nowadays it's becoming hard to counteract smuggling and law violation by classic methods without using different technical means of customs control. Technical instruments are used to fast, convenient, and exact revelation of materials and substances forbidden or restricted to be imported or exported. Also, technical measures of control allow to control baggage of passengers, travelling by different means of transport, international parcels, cargo containers, etc.

Classification of technical measures used by customs officers worldwide, this list can differ, depending on necessary criterion.

1. Technical means of operative diagnostic of custom documentation.

Portable and stationary devices for documents verification are intended for express authenticity verification and advanced examination of passports, ID cards, travel documents, visa stamps and seals, including banknotes, driving licenses, vehicle registration certificates and other vehicle related documents, signatures and handwriting fragments, revenue and special stamps, securities and other documents with security features. Most of such devices use such physical effects as ultraviolet, white, infrared and green incident light sources, which help to identify different hidden signs on any objects.

The *magnifying glasses*, used by customs officers, are intended for express authenticity verification and advanced examination of banknotes, securities and other documents with security features. The device enables to examine small size objects, coins, postage stamps, fragments of photographs, seals, handwriting and signatures.

Microscopes are the instruments used to see objects that are too small to be seen by the naked eye. Microscopic means invisible to the eye unless aided by a microscope.

There are many types of microscopes, and they may be grouped in different ways. One of them is to describe the way the instruments interact with a sample to create images, either by sending a beam of light or electrons to a sample in its

optical path, or by scanning across, and a short distance from, the surface of a sample using a probe.

More often customs officers use miniature variants of microscopes. This technical mean is used to examine documents, stamps and seals mostly.

Video spectral comparators (VSC) – is an instrument capable of viewing and recording the response of documents/inks when exposed to light of various wavelengths. It is useful for the examination and comparison of inks, the examination of security features in documents such as passports and driving licenses, the examination of altered or obliterated entries and the examination of entries which have faded or been washed out. The principle of this technical instrument is based on physical phenomena, more particularly – on ability of different material to be seen under a particular light.

The following lights and techniques may be used in combination: visible lighting, infrared lighting, infrared luminescence, ultraviolet light, transmitted light, coaxial lighting and oblique lighting.

Banknote checking and counting electronic instruments are irreplaceable, working with currency. They use technologies, similar to ones, used in devices for documents checking - ultraviolet, infrared, green incident and white lights. Banknote checking instruments help to see hidden symbols and signs on notes. Hidden elements on banknotes allow to decide quickly and efficiently if this note is original or fake.

Basic banknote counters provide a total count of the notes in the supply hopper. More advanced counters can identify different bill denominations to provide a total currency value of mixed banknotes, including those that are upside down. Some banknote counters can also detect counterfeit bills either magnetically and/or using special types of lights.

2. Technical measures of inspection of customs control objects.

X-ray systems. X-ray is the most widespread physical phenomenon in customs. It is used for people, baggage, parcels, cargo, vehicles, and detecting explosive materials and drugs. All instruments using x-rays can be divided on 2 categories – stationary and mobile. Belarussian customs services use technical devices produced by the American company Rapiscan Systems.

Meteor 6E is a state-of-the-art walk-through metal detector developed for the most demanding high profile security screening applications. Developed using the latest technology to meet the strictest requirements set by international customs and civil aviation authorities.

620XP. This device is created to assist operators in the detection of a range of explosives and narcotics respectively in real time during the scanning process by marking a potential threat on the X-ray image. Detection algorithm is based

on regulatory material analysis techniques. Exactly this one, because of its advantages is used by security in Minsk underground to prevent terroristic acts.

627 DV is a large tunnel with dual view technology for comprehensive X-ray screening of large baggage and parcels. With a wide tunnel opening of 1,000 mm x 1,000 mm, the 627DV is designed for screening small cargo and parcels for customs, air cargo and infrastructure protection screening applications.

Itemiser 3. Lightweight desktop detector simultaneously analyzes both positive and negative ions, allowing for advanced explosive and narcotic contraband detection.

Eagle M60/G60. Mobile or gantry-mounted inspection system for security applications and customs clearance at ports, borders, and roadside checkpoints. The versatile mobile inspection system offers multiple inspection modes for maximum flexibility. This system scans stationary cargo in drive-by mode and can also scan vehicles driven through the X-ray tunnel, either with automatic cab exclusion or using CabScan mode to safely image the entire, occupied vehicle. In driverless mode, operators can scan vehicles without requiring a driver, reducing operating costs.

Electronic scales for measuring real weight of any vehicle with documental registration. These devices can be mounted on road police posts, delfs, different industrial enterprises and customs or port terminals

As *instruments of linear measurement* customs officers use rulers, tape-measures, laser rulers, vernier callipers (incl. electronic), micrometers.

3. Technical measures for customs search and supervision.

Metal detectors. Problem of smuggling weapons, ammunition, explosive materials, metallic prods in baggage, clothing, international parcels, metal-free friable or packaged cargo can be easily solved by using metal detectors. If sensor comes near a piece of metal this is indicated by a changing tone in earphones, or a needle moving on an indicator.

Special examination tools. There is a need to use inspection mirrors, special optical instruments – endoscopes, probes or flashlights for difficult access places inspection. The most widely distributed instruments used by customs officers in Belarus are special sets of inspection mirrors using additional flashlights. These sets consist of extension bars where exchangeable supervision mirrors can be mounted. Special mirrors as rule are round and 20-80mm in diameter or square and 80x50-100x600mm.

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