

ASTM F792-17e1 : [F792 Standard Practice for Evaluating the Imaging Performance of Security X-Ray Systems](#)**Standard Practice for Evaluating the Imaging Performance of Security X-Ray Systems**

Scope

1.1 This practice applies to all X-ray-based screening systems with tunnel apertures up to 1 m wide × 1 m high, whether they are conventional X-ray systems or explosives detection systems, that provide a projection or projection/scatter image.

1.2 This practice applies to X-ray systems used for the screening for prohibited items such as weapons, explosives, and explosive devices in baggage, packages, cargo, or mail.

1.3 This practice establishes quantitative and qualitative methods for evaluating the systems. This practice does not establish minimum performance requirements for any particular application.

1.4 This practice relies upon the use of three different standard test objects: ASTM X-ray test object – HP, for evaluating human perception-based performance parameters; ASTM X-ray test object – RT, for routine testing to assess operation; and ASTM X-ray test object – OE, for objective evaluation and scoring of the technical capability of the system. The specific test objects are subsequently described and referred to in this practice as the HP test object, RT test object, and OE test object.

1.4.1 Part RT—This part considers only the methods for routine and periodic verification of system operation and function, and therefore requires use of ASTM X-ray test object – RT.

1.4.2 Part HP—This part considers only the methods for, and use of, the ASTM X-ray test object – HP.

1.4.3 Part OE—This part considers only the methods for objective evaluation of the technical capabilities of a system, and therefore requires use of the ASTM X-ray test object – OE.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

IBDOCIED: The Routine Test should be used for daily verification and is a update from the ASTM F792-88. The Human Perception Test should be used for developing technical specifications for solicitations/Tenders and scored based on each system's performance. The HP test is a update to the ASTM F792-08. The OE is a very hard test to score and is not recommended.

Portable x-rays can be tested with both the RT and the HP. Portable systems that claim to be able to do materials discrimination will be tested with the HP or the 792-08 to verify color ranges.

To purchase these test objects: svscountermeasurestraining.com/collections/xray-stepwedges