





# 9 Comprehensive Test

## Test 1 Resolution Test

Image Quality Indicator, IQI on sharpness and blurring of copper wire images in air and behind concealment

## Test 2 and 3 Material Discrimination Air

Organic test of several thickness of explosive surrogate in air

## Test 4 Contrast Sensitivity

Contrast is the measure of density difference between 2 areas. Easier to distinguish features of interest amongst its surrounding. The lower the sensitivity level the better

## Test 5 Material Discrimination Steel

Contraband and explosive test behind steel concealment

## Test 6 Spatial Resolution

The ability of image system to differentiate between 2 nearby objects. Typical thickness ranges from 2mm to 0.5mm

## Test 7 Material Discrimination

4 types of materials with various thickness are tested ranging from aluminum to organics

## Test 8 Spatial Resolution Concealment

## Test 9 Penetration

The level of penetration of system eg 25mm to 75mm steel

## Comparison

Current testing medium freight x-ray scanners uses ASTM STP with a special structure to lift the test piece. However according to ASTM the STP **SHOULD NOT** be used for tunnel size greater than 1mX1m.

Typical test piece

- Cannot be angled to meet X-Ray perpendicularly
- Too light hence image can be jittery
- Need special structure to hold test piece

## XTE™ 1 and XTE™ 2

- Specially for tunnel size greater than 1mX1m
- Non disruptive scheduled daily, weekly, monthly, quarterly maintenance.
- Offers both subjective and objective DICOS testing using **XTE Unify**
- Open architecture ACRIS ready
- Easy loading (customized trolley)
- Rotatable Mechanism
- Both XTE 1 and 2 around 75kg and 955mmx750mmx805mm

## ” Standard STP

This practice applies to all x-ray based screening systems with tunnel apertures up to 1m wide x 1m high

ASTM F792 standard

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