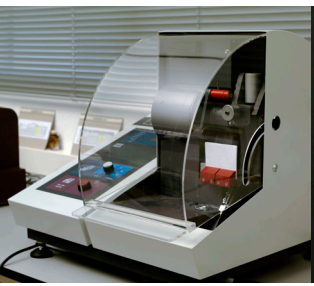
FNMT-RCM Laboratory Test Directory



PAPER AND POLYMER

Paper and polymer

Grammage
Thickness
Tensile strength
Folding resistance
Tear resistance
Ash content
Coating properties
Smoothness
Porosity
Roughness
Porometry
Whiteness
Optical opacity
Colour
UV luminescence
Surface resistance
Printability
Ageing
Stiffness and bending
Fibres composition
Paper fillers
Absolute moisture
Misalignment
Watermarks
Magnetism and security thread coding

INKS AND VARNISHES

Inks and varnishes

Colour
Fluorescence
Phosphorescence
Magnetism
Opacity by printing
Ink printability
Peeling
Drying
Stiffness
Viscosity
Infrared transparency
Gloss
Optical density
Optically variable and iridescent (OVI) inks
Surface tensile strength
Chemical analysis by SEM/EDX, EDXRF
or FTIR

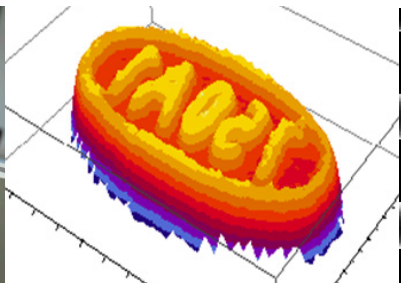
Test Print Centre

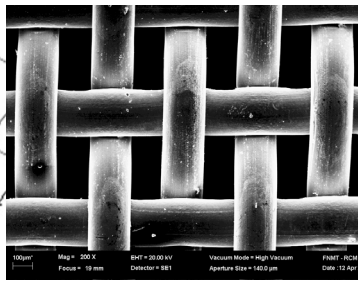
Offset, intaglio, silk-screen printing, letterpress, foil application.

ID DOCUMENTS AND OTHER MEANS OF PAYMENT

Cards and passports

Study of composition by means of the following tests:
Chemical
Organoleptic
Infrared spectrometry
FTIR + microscope
Study of properties in different atmospheric conditions:
Chambers: environmental, light, thermal shock, saline fog
Study of security elements, including:
Visual light test:
Ultraviolet, infrared, polarised, etc.
Magnetic stripe
Embossed relief
Electrical properties, card with and without contact (RFID)
Adhesion of inks on plastic supports:





Adhesion, friction resistance

Adhesives:

Adhesion, Shear, Ageing

BANKNOTES AND OTHER SECURITY PRODUCTS

Resistance and ageing

Abrasion resistance
Dry and wet crumpling
Heat resistance
Light resistance
Chemical resistance
Foil or patch resistance
Resistance by the application of adhesive tapes
Ironing resistance
Freezing resistance
Ball-vibration resistance
Washing machine resistance
Lightfastness
Abrasion resistance
Soiling resistance
Ad hoc developments of new testing procedures

Characterization

SEM/EDX. Surface and transversal analysis
Confocal- interferometry
Relief surface analysis

COINS, METALS AND OTHER

ICP- OES Technique

Analysis of pollutants in the air
Analysis of waste water
Analysis of copper-based alloy metals

Atomic Absorption (AA)

Base alloys:

Copper, iron, nickel, aluminium, lead, zinc and tin

Optical Emission Spectrometry (OES)

Base alloys:

Copper, aluminium, iron
Impurities in pure metals (Cu and Ni)

SEM/EDX

Blanks and coins
Gold and silver alloys

Potentiometry

Silver alloys
Silver monetary alloys (900 - 950 ‰). Accredited by ENAC

Cupellation

Analysis of Au-based alloys
Gold monetary alloys and fine gold (880 - 920 ‰ / 990 - 999,9 ‰). Accredited by ENAC

Other

Brinell, Rockwell and Vickers hardness
Metallographic testing
Magnetism
Electrical behaviour

ADDED VALUE

Environment and Health and Safety

In air:

Metals, Organic vapours

In waste water:

COD (Chemical Oxygen Demand), metals, organic vapours, cations, anions, pH

Metrology and calibration:

Dimensions, temperature and relative humidity, mass.