

Keywords for *Surface & Coatings Technology*

Authors should select a maximum of six keywords from the approved list for *Surface & Coatings Technology*. If desired, authors may propose **one** keyword not currently listed, however the total number of keywords must not exceed six. The author proposed keyword will be printed in the journal and will be considered for inclusion in the approved list in the future.

Authors are requested to include the keywords in their manuscript, placing them below the abstract. Each keyword should be preceded by the capital letter denoting the category from which the keyword has been selected. Any additional keyword proposed by the author must be preceded by the letter X.

If selecting keywords from the list appearing in the journal or provided by an Editor or the publisher, please tick the appropriate boxes.

[A] Theoretical Methods, Models and Techniques

Models

- Growth models
- Plasma simulation and modelling
- Reliability models
- Thickness uniformity models

Techniques

- Dynamic Monte Carlo methods

[B] Properties and Characterisation

TESTING/EVALUATION

Abrasion

- Abrasive wheel test
- Others (specify)

Adhesion

- Scratch test
- Others (specify)

Conductivity

- Resistivity

Corrosion

- Immersion test
- Impedance spectroscopy
- Salt spray

Erosion

- Grit blast test

Hardness

- Nano-indentation
- Vickers hardness test
- Brinell hardness test
- Knoop hardness test
- Creep and relaxation test

Impact

- Impact Test

Porosity

- Mercury intrusion porosity (MIP)

Rolling contact fatigue

- Twin disc machine

Structure

- Amorphous
- Cluster
- Creep
- Crystalline
- Defects
- Diffusion
- Dislocations
- Elastic properties
- Grain boundary
- Grain growth
- Impurities
- Interfaces
- Lattice parameters
- Nucleation
- Phase transitions
- Structural Zones 1,2,T
- Vacancies

Surface finish

- Profilometry
- Roughness

Thermal degradation

- Burner rig test

Thickness

- Ball crater
- Interferometry
- Profilometry
- X-ray fluorescence

Wear

- Block on ring
- Pin on disc

CHARACTERISATION**Microscopy**

- Atomic force microscopy (AFM)
- Ballistic electron microscopy (BEEM)
- Field emission microscopy (FEM)
- Field ion microscopy
- Low-energy electron microscopy (LEEM)
- Reflection electron microscopy (REM)
- Scanning electron microscopy (SEM)
- Scanning transmission electron microscopy (STEM)
- Scanning tunneling microscopy (STM)
- Transmission electron microscopy (TEM)

Diffraction

- Auger electron diffraction
- Low energy electron diffraction (LEED)
- Photoelectron diffraction
- Reflection high-energy electron diffraction (RHEED)
- Transmission high energy electron diffraction
- X-ray diffraction

Spectroscopy

- Auger electron spectroscopy (AES)
- Electron energy loss spectroscopy
- Ellipsometry
- Field emission spectroscopy
- Fourier transform infrared spectroscopy
- Glow discharge mass spectroscopy (GDMS)
- Glow discharge optical spectroscopy (GDOS)
- Infrared spectroscopy
- Inverse photoemission spectroscopy
- Ion scattering spectroscopy
- Mossbauer spectroscopy
- Photoelectron spectroscopy
- Photon absorption spectroscopy
- Positron spectroscopy
- Raman scattering spectroscopy
- Reflection spectroscopy
- Rutherford backscattering spectroscopy
- Scanning tunneling spectroscopy
- Secondary ion mass spectroscopy (SIMS)
- Secondary neutral mass spectroscopy (SNMS)
- Surface photovoltage spectroscopy
- Thermal desorption spectroscopy

[C] Preparation and Processing**PREPARATION****Finishing**

- Grinding
- Polishing
- Shot peening

Cleaning

- Abrasive
- Acid
- Alkaline
- Electrolytic
- Emulsion
- Etching
- Grit blasting
- Pickling
- Salt bath
- Solvent
- Ultrasonic

GASEOUS**Physical vapour deposition (PVD)**

- Electron beam evaporation
- Gas evaporation
- Ion beam evaporation
- Pulsed laser deposition (PLD)
- Vacuum evaporation

Chemical vapour deposition (CVD)

- Fast atom beam source (FAB)
- Hot filament
- Laser
- Molecular beam epitaxy (MBE)
- Organometallic CVD
- Pack diffusion coatings
- Photolaser CVD

Plasma

- Activated reactive evaporation (ARE)
- Arc evaporation
- Carburising
- Direct current (DC)
- Electron cyclotron resonance (ECR) plasmas
- Filtered arc
- Glow discharge sputtering
- Ion beam deposition
- Ion bombardment
- Ion implantation
- Ion plating
- Magnetron
- Microwave
- Nitriding
- Nitrocarburising
- PACVD
- PAPVD
- Plasma source ion implantation (PSII)
- Plasma immersion ion implantation (PIII)
- Pulsed
- Radio frequency (RE)

- Reactive sputtering
- Sputtering

SOLUTION STATE

Chemical solution deposition

- Chemical conversion
- Chemical etching
- Chemical reduction
- Cyaniding
- Electroless deposition
- Electroplating
- Trowel coating

Electrochemical deposition

- Anodising
- Plating

Sol gel/slurry coatings

- Sol gel/slurry

MOLTEN OR SEMI-MOLTEN STATE

- Alloying
- Cementation
- Cladding
- Flame spraying
- Hardfacing
- High velocity oxyfuel (HVOF)
- Hot dip
- Hot isostatic pressing (HIP)
- Laser machining (LBM)
- Laser melting
- Plasma spraying
- Sintering
- Thermal spraying
- Welding

[D] Materials

ELEMENTAL

Metals

- Alkali metals
- Alkaline earth metals
- Aluminium
- Antimony
- Arsenic
- Bismuth
- Cadmium
- Cerium
- Chromium
- Cobalt
- Copper
- Gallium
- Germanium
- Gold

- Hafnium
- Indium
- Iridium
- Iron
- Lanthanides
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Niobium
- Osmium
- Palladium
- Platinum
- Rhenium
- Rhodium
- Ruthenium
- Scandium
- Silver
- Tantalum
- Technetium
- Thallium
- Thorium
- Tin
- Titanium
- Tungsten
- Uranium
- Vanadium
- Ytterbium
- Yttrium
- Zinc
- Zirconium

Non-metals

- Boron
- Bromine
- Carbon
- Diamond
- Graphite
- Iodine
- Phosphorus
- Silicon

Gases

- Argon
- Chlorine
- Helium
- Hydrogen
- Neon
- Nitrogen
- Oxygen

COMPOUNDS

Metal alloys

- Aluminium alloy
- Chromium alloy

- Copper alloy
- Iron alloy
- Nickel alloy
- Titanium alloy
- Tungsten alloy
- Zinc alloy
- Zirconium alloy

Ceramics

- Aluminium nitride
- Aluminium oxide
- Boron carbides
- Boron nitride
- Carbides
- Chromium carbide
- Chromium nitride
- Chromium oxide
- Cubic Boron nitride
- Cuprous oxide
- Indium oxide
- Iron oxide
- Lead oxide
- Molybdenum nitride
- Molybdenum oxide
- Nickel carbides
- Nickel oxide
- Niobium oxide
- Nitrides
- Oxides
- Silicon carbide
- Silicon nitride
- Silicon oxide
- Tantalum nitride
- Tin oxide
- Titanium carbide
- Titanium nitride
- Titanium oxide
- Tungsten carbide
- Tungsten oxide
- Uranium oxide
- Vanadium oxide
- Yttrium oxide
- Zinc oxide
- Zirconium nitride
- Zirconium oxide
- Cermets and composites**

Gases

- Acetylene
- Ammonia
- Hydrogen sulphide
- Methane
- Nitrogen dioxide
- Nitric oxide

- Nitrous oxide
- Silane
- Sulphur dioxide

Intermetallics

- Antimonides
- Arsenides
- Cadmium selenide
- Cadmium sulphide
- Cadmium telluride
- Gallium antimonide
- Gallium arsenide
- Gallium phosphide
- Gallium selenide
- Indium antimonide
- Indium arsenide
- Indium phosphides
- Lead telluride
- Mercury telluride
- Nickel sulphide
- Phosphides
- Selenides
- Sulphides
- Tellurides
- Tin telluride

Liquids

- Hydrogen cyanide
- Methanol

Polymers

- Polyester
- Polyethylene
- Polypropylene

Paints

- Additives
- Pigments
- Resins
- Solvents

Semiconductors

- Compound
- Germanium
- Silicon

Structures

- Metal-oxide semiconductor structure (MOS)
- Monolayer
- Multilayer
- Nanostructure

[X] Optional author selected keyword

(please specify and tick one of the following categories
[A] [B] [C] [D])