

Material Deposition



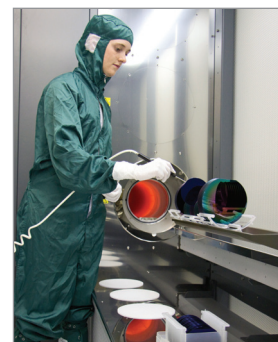
Deposition of thin layers of materials with various physical or chemical properties is a key feature of the components we fabricate. Materials are deposited in either single or multiple layers corresponding to the functionalities we want to implement in the component. Some materials are good conductors of electricity, others are electrically insulating, transport light or have special thermal and electrical properties.

DTU Danchip has facilities to deposit dielectric layers with Plasma-Enhanced Chemical Vapor Deposition (PECVD), various magnetic materials, metals and dielectric layers with Physical Vapour Deposition (PVD), anti-sticking coating with Molecular Vapour Deposition (MVD), graphene and carbon nanotubes with Chemical Vapour Deposition (CVD), and silicon oxide and silicon nitride with Low-Pressure Chemical Vapour Deposition (LPCVD). Furthermore, DTU Danchip houses electrochemical deposition of Ni on substrates up to 6".

Ionfab300+ is an Ion Beam Sputter Deposition (IBSD) tool that can deposit materials with a high level of homogeneity on wafers up to 8" in size.

The deposited film thicknesses range from a few nm to several μm on substrates up to 8".

Contact us for further information at sales@danchip.dtu.dk.



Thin Film Equipment

CVD (up to 4")

- Graphene, Carbon nanotubes

LPCVD (up to 6")

- Si_3N_4 , SiN_x , SiO_2
- amorph Silicon, polySilicon

PECVD (up to 6")

- SiN_x , SiO_2 , SiO_xN_y , PBSG
- Ge Doping

PVD (up to 6")

- Mg, Al, Si, Ti, Fe, Cr, Co, Ni,
Cu, Ru, Pd, Ag, Sn, Ta, W, Ir,
Pt, Au, Te
- Ti/W, Ni/Co, Mn/Ir, Co/Fe,
Ni/Fe, Ni/V, Ta/Ni/Fe, Ni/Cr
- SiO_2 , Cr_2O_3 , MgO, Al_2O_3 ,
 Al_xN_y , ZrO_2 , SiN
- AZO, ITO, ZnO

IBSD (up to 8")

- Si, SiO_2 , SiN, TiO_2

MVD (up to 6")

- FDS