



Technology used in Thin Film or Optical Coating Processes



There are two types of thin film coating processes – PVD (Physical vapour deposition) and CVD (Chemical vapour deposition). Thin film deposition is the process of creating and depositing [thin film coatings](#) onto a substrate material, to improve some element of performance. Thin film coatings are used to make products used in every-day life. Micro chips made in the semiconductor industry, ophthalmic lense used for reading glasses, car head lamps with aluminium coatings are examples of thin film depositions. Thin films are also used in a variety of space and defence applications.

According to many experts, PVD and CVD coatings are harder and more resistant to corrosion than electroplating coatings since PVD coatings have such high impact strength, high-temperature threshold and excellent abrasion resistance. PVD is commonly used for applying coatings such as zirconium nitride, titanium, aluminium nitride, titanium nitride and chromium nitride.

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HHV has a wide variety of technical and optical offerings from the Thin Film Equipment and Optics divisions. HHV provides end-to-end, customized design services for thin film deposition systems, optical components and Thin-film Optical Coatings. Variations in coating compositions provide film properties suited for different applications. HHV offers systems and coating services through a range of deposition processes like Thermal Evaporation, Electron Beam Evaporation, Magnetron Sputtering, Effusion Cells, Ion Beam Sputtering, Glow Discharge, CVD, PECVD, Reactive Ion Etching and Atomic Layer Deposition.

A surface can receive multiple layers of different coating materials to create a [Thin Film Coating](#) that completely protects and enhances the underlying part. Thin film coatings have to take place in vacuum to keep contamination low and uniformity high.

To meet the changing needs of the thin-film coating and equipment sector, HHV offers high-quality products for its customers. HHV manufactures dichroic coated optics, laser filters, narrow band interference filters, hybrid micro circuits, periscope prisms, thin film heaters and infrared optics for a variety of applications in industrial, space and defence technologies.

About the company

HHV's Thin Films and Optics division is a leading manufacturer of high precision optical components and thin film coatings. The manufacturing unit includes facilities for optical polishing, high end metrology, thin film coatings and testing capabilities. HHV's R&D team has been closely associated with world renowned scientists in thin film technology to develop challenging and advanced thin film deposition system products. These unique thin film deposition equipments have been successfully demonstrated for functional performance, product quality and repeatability. The company was founded to supply the market with specialized products that were designed and manufactured to meet the customer's standards, as well as to provide technical and product support services that exceeded their expectations.

For more information visit our website: <https://hhv.in/>

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