Inner diameter coating for monolithic rotary targets.

A new inner diameter coating for monolithic molybdenum targets prevents direct contact between the target material and cooling water during the sputtering process.
Molybdenum sputtering targets are used to deposit back contacts in CIGS cells or thin film transistors in TFT-LCD screens by magnetron sputtering. Monolithic rotary targets have no backing tube. They consist entirely of the thin film material. Thanks to these targets, our customers can considerably increase sputtering performance and consequently achieve greater throughput. The particularly efficient level of material utilization also reduces the total cost of ownership in solar cell production.

When monolithic targets are used, the molybdenum is in direct contact with the cooling water inside the sputtering equipment. Additional particular additives (so-called inhibitors) have to be used to condition the cooling water for operation with monolithic targets. These stabilize the pH-value of the cooling water.

Plansee has now developed a protective coating for the inner diameter (ID) wall of the target, designed to make it even easier to use monolithic targets. This polymer-based layer ensures that the molybdenum no longer is exposed directly to the cooling water. The advantage: Manufacturers of CIGS cells or TFT-LCD screens do not need to use the additional inhibitors and are therefore able to reduce their costs. The ID coating does not noticeably impair the thermal conductivity of the rotary target.