

Title (en)

ADAPTER OF SAMPLE HOLDER FOR EVALUATION OF MECHANICAL DURABILITY OF THIN FILMS AND METHOD FOR EVALUATION OF QUALITY OF MECHANICAL DURABILITY OF THIN FILMS VIA THIS ADAPTER

Title (de)

ADAPTER FÜR PROBENHALTER ZUR BEURTEILUNG DER MECHANISCHEN BESTÄNDIGKEIT VON DÜNNSCHICHTEN UND VERFAHREN ZUR QUALITÄTSBEURTEILUNG DER MECHANISCHEN BESTÄNDIGKEIT VON DÜNNSCHICHTEN ÜBER DIESEN ADAPTER

Title (fr)

ADAPTATEUR DE PORTE-ÉCHANTILLON POUR L'ÉVALUATION DE LA DURABILITÉ MÉCANIQUE DE FILMS MINCES ET PROCÉDÉ D'ÉVALUATION DE LA QUALITÉ DE DURABILITÉ MÉCANIQUE DE FILMS MINCES PAR L'INTERMÉDIAIRE DE CET ADAPTATEUR

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Application

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Abstract (en)

[origin: WO2022007985A1] The invention is an adapter of sample holder for pursuance of method for evaluation of quality of mechanical durability of thin films which is formed by a hollow body (1), whose shell (101) is from below closed with a lid (8) which allows fixation of the adapter to a console of the holder of testing device and from above with a contact front face (2), on which is not only from the top fixed a tested sample (3) consisting of a substrate (31) and on it deposited thin film (32) but also there is from the bottom fixed a piezoelectric sensor (4) of acoustic emission which is equipped with a mechanical damper (5) and a preamplifier (6) of an electric signal which is through a connector (41) taken out from the body (1), where the essence of the invention is that the shell (101) and the contact front face (2) are designed as an assembly of two individual structural parts with different material composition, whereas the contact front face (2) is made of a transparent material which has mechanical stiffness and stability with the value of Young's modulus of elasticity higher than 40 GPa and at the place of its fixation there is an inner peripheral recess (103) in the shell (101), in which is placed LED illumination (7) which is connected through a coupler (71) with a source of electric energy which is placed outside of the body (1). Likewise, is the invention the method of evaluation of quality of mechanical durability of thin films deposited on transparent substrate with use of continuous monitoring and record of acoustic emission during low cycle repetitive scratch test with subcritical force by the help of the adapter.

IPC 8 full level

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