

Title (en)

METHOD FOR DETERMINING THE THERMAL SHOCK ROBUSTNESS AND MATERIAL STRENGTH OF BRITTLE FAILURE MATERIALS

Title (de)

VERFAHREN ZUR ERMITTLUNG DER THERMOSCHOCKROBUSTHEIT UND MATERIALFESTIGKEIT VON SPRÖDVERSAGENDEN MATERIALIEN

Title (fr)

PROCÉDÉ POUR DÉTERMINER LA ROBUSTESSE AUX CHOCS THERMIQUES ET LA RÉSISTANCE DE MATÉRIAUX À RUPTURE DE FRAGILITÉ

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Abstract (en)

[origin: WO2009040168A1] The invention relates to a method for determining the thermal shock robustness and material strength of brittle failure, in particular ceramic, materials, wherein this method comprises the following steps: (a) at least one material sample is homogeneously heated to a desired temperature, (b) a local thermal shock is induced by cooling using a fluid whose form and volume are defined, wherein the fluid has a Weber number of $We = 130$, (c) the material sample is tested for cracking, (d) steps a) to c) are optionally repeated with the material sample, wherein a higher desired temperature level is set in step a). The invention also relates to an apparatus for carrying out the method.

IPC 8 full level

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