Title (en)

METHOD FOR USING PULSED OPTICAL ENERGY TO INCREASE THE BONDABILITY OF A SURFACE.

Title (de)

VERFAHREN ZUM BENÜTZEN VON GEPULSTER OPTISCHER ENERGIE ZUR ERHÖHUNG DER HAFTENS EINER OBERFLÄCHE.

Title (fr)

PROCEDE D'UTILISATION DE L'ENERGIE OPTIQUE PULSEE.

Publication

EP 0642421 A4 19960313 (EN)

Application

EP 93913982 A 19930518

Priority

- US 9304737 W 19930518
- US 88572892 A 19920519

Abstract (en)

[origin: WO9323249A1] A method and system for improving the capability of a surface (14) of an organic structure (16) to bond with another material includes irradiating a target area of the surface of a structure with pulsed, incoherent optical energy (18) from an optical energy source (12) having wavelength components which range from 170-5000 nanometers at an intensity sufficient to photodecompose any adventitious organic substances on the surface and to photodecompose a thin layer of molecular bonds forming the surface of the structure; and exposing the target area of the surface (14) to an ionized gas stream (24) from an ionized gas generator (26) that chemically reacts with the target area of the surface to increase the surface free energy of the surface. A similar method may also be employed to improve the bondability of a metal surface by impinging a target area on a metal surface with a stream of particles (36) to preclean and dislodge any inorganic substances from the surface; and then irradiating the target area of the surface with pulsed, incoherent optical energy (18) having wavelength components in the range of 170-5000 nanometers at an intensity sufficient to photodecompose any remaining organic substances present on the surface.

IPC 1-7

B32B 31/00; B08B 7/02

IPC 8 full level

B05D 3/04 (2006.01); **B05D 3/06** (2006.01); **B08B 7/00** (2006.01); **B29C 59/00** (2006.01); **B29C 59/16** (2006.01); **C08J 7/00** (2006.01); **C09J 5/02** (2006.01); B29C 35/08 (2006.01)

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