Title (en)

A METHOD AND AN APPARATUS FOR CHECKING THE CONDITION OF A PROTECTIVE GLASS IN CONNECTION WITH LASER MACHINING

Title (de)

VERFAHREN UND VORRICHTUNG ZUM PRÜFEN DES ZUSTANDS EINES SCHUTZGLASES IN VERBINDUNG MIT LASERBEARBEITUNG

Title (fr)

PROCEDE ET APPAREIL DE VERIFICATION DE L'ETAT D'UN VERRE PROTECTEUR EN RELATION AVEC UN USINAGE LASER

Publication

EP 1146986 A1 20011024 (EN)

Application

EP 99925508 A 19990413

Priority

- SE 9900592 W 19990413
- SE 9801780 A 19980520

Abstract (en)

[origin: WO9959762A1] The invention relates to a method and an apparatus for checking the condition with respect to dirt contamination in the form of small smoke particles accumulated on a protective glass plate (3) arranged between the workpiece (2) and the laser optics (1) in a laser machining system and through which protective glass plate the machining laser beam (6) is arranged to pass. A thermal detector (10) is arranged, with a good thermal contact with the mechanical part attaching the protective glass plate in a holder (4), for sensing (measuring) the temperature of said mechanical attachment part. Due to an absorption of the laser beam by the small smoke particles an increased temperature is obtained on the protective glass plate and the mechanical parts that are attaching the protective glass in its holder (4). As soon as the detector signal has reached a certain level it can be indicated that it is time to replace the protective glass plate. The thermal detector (10) is preferably combined with an optical detector (8) sensing the radiation scattered by larger dirt particles collected on the protective glass plate during the machining process.

IPC 1-7

B23K 26/00

IPC 8 full level

B23K 26/00 (2014.01); **B23K 26/064** (2014.01); **H01S 3/02** (2006.01)

CPC (source: EP)

B23K 26/702 (2015.10); **B23K 26/707** (2015.10)

Cited by

CN106927257A

Designated contracting state (EPC)

AT BE CH CY DE DK ES LI

DOCDB simple family (publication)

WO 9959762 A1 19991125; EP 1146986 A1 20011024; JP 2002515341 A 20020528; SE 512097 C2 20000124; SE 9801780 D0 19980520; SE 9801780 L 19991121

DOCDB simple family (application)

SE 9900592 W 19990413; EP 99925508 A 19990413; JP 2000549415 A 19990413; SE 9801780 A 19980520