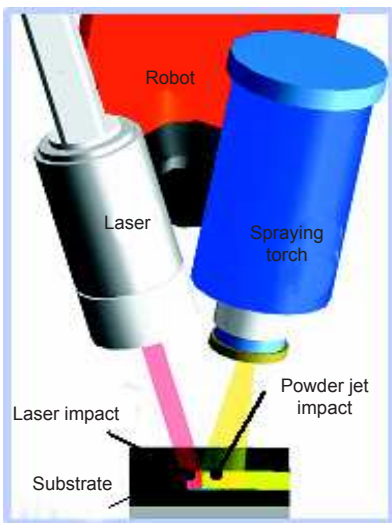


PROTAL[®] process

Laser assisted thermal spraying

developed by IREPA LASER and LERMPS

US Patent N° 5 688 564 - Date : 18/11/97



This patent presents an original solution of surface preparation which aims at improving the adherence of deposits. The combination of impulse mode Nd-YAG laser (Q-switched, 10 ns, 120 Hz) with a thermal spraying torch (plasma, supersonic flame, flame, electric arc) eliminates the superficial contaminating film on the surface of the substrate (grease, oxides, etc) and generates a good surface state for adherence of the deposit.

Advantages :

- ▶ Good adherence of the deposit on the substrate
- ▶ No alteration of the substrate (notches, weakening)
- ▶ Single-stage work
- ▶ Reduction of the treatment time
- ▶ Reduction of the global spraying cost

Possible applications :

- ▶ Thermal barriers
- ▶ Treatment of rolls (paper mill, rolling mill,...)
- ▶ Treatment of turbine blades

Examples :

Treatment of materials sensitive to notches (titanium alloys, aluminium alloys, secondary hardening steels, etc).

