

LASER SURFACE PREPARATION FOR NON DESTRUCTIVE TESTS

Application Fields

Power Plants



Aerospace



Chemical & Petrochemical plants



Oil Industries



cleanLASER technology enables to have effectively fast, highly sensitive and cost saving preparation of metallic surfaces for NDT. In the production and especially during the revisions the decoating of highly stressed surfaces is done by conventional methods, which leads to reduced sensitivity or even to failure of correct NDT. Laser helps to increase the decarbonization by no media waste and improve the quality of work efficiency by speeding up the decoating in subjective-free manner to increase the sensitivity of the NDT.

Transportation



Bridges



Defense



NDTs methods like testing by fluid penetration (PT), magnet powder (MPT) or eddy current (ECT) as well as ultrasonic (UT) e.g. require a well prepared, clean, dry, contamination free metallic surface. Most conventional methods of decoating have risk either to mask the cracks or to remain contamination leading a negative effect on the results. The requirement of powerful ablation versa very gentle decoating is difficult and depends individually on each case. Furthermore the set up and clean up after decoating of the blasting media is a very cost effective part of process besides the topic of health risk. Sometimes edging is required after mechanical decoating to open the cracks which is subsequently washed and dried. Chemical methods always need subsequent washing and can lead to quicker development of corrosion. All in all the whole NDT process can be very time consuming. The effect of preparation of the surface is very strong on the final result of the NDT.

PARTIAL OR LARGE-SCALE PAINT STRIPPING AND DECOATING

cleanDECOAT by cleanLASER is the superior level of surface preparation. The laser ablates sensitively the coating and does not create any further blasting media waste. It can remove paint, rust, hydrocarbon, oil and grease in one step and can significantly reduce chloride contamination in base material.

It is global proven in the field at our customers from chemical, petrochemical,

power plants up to defense that laser releases a dry surface for ISO norms. Laser de-painted surfaces provides coating adhesion values equal to or better than those de-painted by grit blasting. It is faster and better than any other option. Especially CMR content like asbestos or lead can be removed effectively while mitigating environmental, health and safety risks. Either our CL500 or CL1000 laser with up to 100 m fibre cable length can enable fast large radius application at difficult access areas in plants or our most compact lightCASE FFC series can allow to work in extreme small and difficult accessible areas in towers or inside of machines and vehicles. The weld inspector can closely follow with the inspection. Finally laser can clean the surface prior recoating.



COST SAVINGS OF LASERS PREPARATION

- **Low operation costs**
- **Waste reduction**
 - No blasting media, dry, media free
 - Clean process, reduction of load for work environment and operator
 - Multiple units can work simultaneously
- **Improvement of inspection quality**
 - Removal of paint, oil, grease, dirt and scales from bead edges in one step
 - Sensitivity for cracks < 10 µm
 - Removal of ink after PT very efficient
 - No mechanical effect by this no cracks closing
 - No residues after cleaning
 - < 80 dB noise
- **Speed up the total process of inspection**
 - Quick set up
 - Removal rates up to 1 m²/h for epoxy based triplex coatings up to 300 µm, much faster for grease and oils
 - Access is often better than with other methods

11.2021. Subject to technical changes

PLEASE CONTACT US - WE ARE HAPPY TO ADVISE!

 **cleanLASER**
cleaning with light