

# NIR MICROSPOT REPAIR

Drying and Curing of Spot Repairs within Seconds

## Product description:

adphos consulted system users throughout the development of NIR MICROSPOT REPAIR. We worked together with a car manufacturer to investigate the thermal procedure during the dabbing process, develop the system to series production stage and launch it worldwide. NIR MICROSPOT REPAIR repairs dimples and pinholes, wetting defects, larger occlusions that cannot be polished, scratches and stone impacts in the top coat on steel, aluminium, SMC, PP and other plastics.

In car manufacture, small flaws in the top coat are often repaired using paint spots. These are applied to the pre-buffed flawed area with a dabbing tool, then either dried for 15 – 30 minutes with IR stand-type dryers at a spot repair station or returned to the top coat dryer. With the NIR MICROSPOT REPAIR system – a simple, compact hand-held device – the drying and curing process can now be reduced from 15 – 30 minutes to just 20 – 50 seconds. Precisely targeted, controlled NIR radiation dries and cures the surface of the paintwork in the radiation area with a defined temperature profile, and does so with such speed that the paint spot is then immediately ready for rubbing down and polishing. The following systems are available for this purpose, depending on your requirements:



## Versions:

- NIR MICROSPOT REPAIR for small top-coat flaws on steel and SMC.
- NIR MICROSPOT REPAIR Plus for small top-coat flaws on steel, SMC and aluminum.
- NIR MICROSPOT REPAIR PP Plus for small top-coat flaws on steel, SMC, aluminum and plastics.

## Ideal for drying and curing with NIR MICROSPOT REPAIR:

- Series clear coating systems (single-component, dual-component)
- Special dual-component clear coatings for scratch-resistant surfaces
- Dual-component repair coatings
- Water-based top coats (single-component, dual-component)
- Solvent-based top coats (single-component, dual-component)
- High solid coatings

The NIR treatment causes no damage either to the coating surface or the substrate because the maximum temperature reached during this controlled process is below the temperature at which damage can occur.



## Other hand-held devices in the NIR-Repair range:

- NIR-Car-Repair
- NIR-Spot-Repair

## Material and Time Savings

### Fields of Application:

NIR MICROSPOT REPAIR can be used to perform repairs on the production line and in spot painting booths, assembly areas, dispatch areas, processing centres, car manufacturing branches, car workshops and paintshops. The system removes tiny paintwork flaws cost effectively and brings an extremely fast return on investment. In the spot booths of car manufacturers, for example, process costs at full capacity are reduced by up to 90 % and material consumption up to as much as 98 % compared with spot/partial painting. Integrating the repair technology into the series production workflow significantly increases capacity in the spot/partial painting booths and on the production line. Because vehicle bodies do not need to be fed back into the coating or drying processes, productivity is not impaired.

NIR MICROSPOT REPAIR also provides the perfect conditions for processing stationary vehicle bodies at team workstations. What's more, the fact that the system is extremely user-friendly means it can also be used fast and flexibly on vehicles in the repainting and assembly stages.

### User industries:

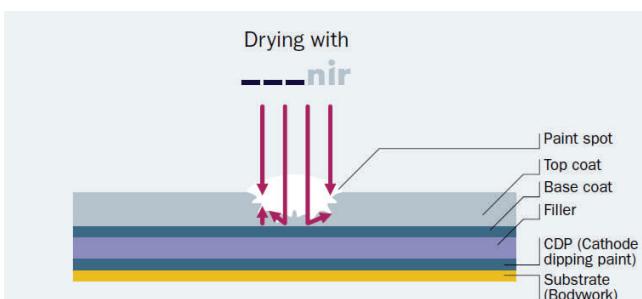
- Cars, motorcycles
- Commercial vehicles and superstructures
- Track vehicles
- White and brown goods
- Etc., etc.



NIR MICROSPOT REPAIR is easy to operate. It eliminates the need for complex disassembly of mounting parts which is a major advantage when working on areas that are difficult to access.

### Technical Data:

- Aluminium casing with foam lining at the sides, spring-supported silicon-free positioning feet and light shield
- Integrated control electronics
- Integrated NIR sensor for temperature and process monitoring
- Membrane keyboard and display for operating and programming
- NIR emitter unit with plug
- Power cable, 6m, fixed connection
- Mains voltage 120 or 230 V, 50 or 60 Hz
  - NIR MICROSPOT REPAIR: 1 kW, 5A
  - NIR MICROSPOT REPAIR Plus: 2 kW, 10A
  - NIR MICROSPOT REPAIR PP Plus: 2 kW, 10A
  - Weight: 1900 g (without cable)
- Adjustable process temperature 100 °C – 200 °C
- Adjustable process time 10 s – 50 s
- Layer thickness of paint spot up to approx. 300 µm
- Maximum spot size ø 35 mm
- Selection of 3 programmable process parameter sets (temperature, time and control parameters)
- Freely programmable processes on the PP Plus model



NIR (Near Infrared) wavelengths are shorter than any other form of infrared radiation and generate the highest energy output. NIR penetrates most materials extraordinarily fast and heats them up extremely rapidly. Precisely targeted NIR radiation generates the required process temperature in a very short space of time.

All here mentioned data are subject to changes due to product optimisation  
PDB MicroSpot-01en-04/2009