REA JET

INDUSTRIAL CODING AND MARKING SOLUTIONS – MADE IN GERMANY

REA JET Clearweld Primer

Digital drop-on-demand printing technology for laser welding plastic parts

Primer coating using digital printing technology

By nature, traditional transparent plastics such as PE, PP, PC, PS and SAN have only a limited ability to absorb laser light, which means that plastic welding is either impossible or very difficult. A remedy for this is provided by reliable and economical application of a laser-absorbing primer.

REA JET has worked with partners Crysta-Lyn (United States) and TechnoScriptum (Germany) to develop a digital printing process for automated primer coating for pre-treatment of plastic parts.

The solution from REA JET allows transparent and laser-transparent plastic materials to be prepared with REA JET Clearweld Primer so that they can be welded using lasers. The primer has a high specific absorption of laser light and is also used for injection-molded plastic parts as well as nonwoven fabrics.

The system can be configured for the specific customer. It combines maximum precision with the reproducibility of digital drop-on-demand printing technology for application of primers for laser welding applications.

REA Clearweld technology

REA JET Clearweld Primer has already proven its worth in everyday industrial applications. In combination with the REA JET DOD Large Character Inkjet Printer, the customer receives significant advantages with regard to application precision and economical handling of primers.

DOD print heads
7, 16 and 32 nozzles

A ready-to-use REA JET DOD Clearweld system consists of:

- Print head with primer supply
- Controller with connection cable
- Retainers and installation elements
- Optional accessories, such as light barriers, distance compensators etc.

REA JET DOD Clearweld Primer enables completely fog-free, aerosol-free and loss-free local application of primers. It is only applied where it is needed.

The specific coating information for the component is stored in digital installation settings as well as in digital print layouts. Users have flexibility and can make changes or control the system directly at the DOD controller or through the network.

In this way, any component can be precisely calculated in advance.

DOD controller

Typical application areas

- Housings and components made of transparent plastics in medical and technical areas
- Nonwoven materials
- Laser welding serves as a substitute for adhesives
- Laser welding serves as a substitute for conventional welding methods (hot-air welding, high-frequency welding, ultrasonic welding, etc.)
- Width of application: 2 - 2300 mm

Advantages:

- Excellent optical quality of weld seam
- Excellent strength of weld seam
- REA JET Clearweld Primer loses its color during the laser welding process
- No friction and no vibration during the welding – non-particulate welding process
- Extreme flexibility in contouring the weld seam
- Extremely high reproducibility, uniform and fine distribution of the primer over the contour
- Very short drying time of the primer on the plastic surface
- Suitability for automated coating processes (high speed, linear movements, robot movements, etc.)
- Reduced thermal load on the plastic components during the welding process
- Short welding time and high concentration of welding energy, particularly for smooth plastic materials as well

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V.04/2021 - Subject to change