

Press Release

Marking of plastics

Heavy-metal free additives for flexible laser marking

Bremen/Düsseldorf, 2008-04-24 - With its new ACTELAR® additive for high-speed laser marking of plastics, ACTEGA DS GmbH is offering an innovative product for use in fast-growing fields of application that provides the solution to important trends for the future. The heavy-metal free additive is used for marking plastics without any inherent markability and is intended for marking using lasers (Nd:YAG lasers). Closures, caps and plastic packaging of various shapes and sizes, produced by injection or compression moulding, can be rendered laser-markable using the new masterbatch additive. It is also possible to use it in technical plastics.

The market for the laser marking of products or packaging with its double-digit annual growth poses specific demands on plastics in particular, and these can be fulfilled reliably with the help of the additive. The innovation can be incorporated amongst other things into thermoplastic elastomers and avoids the use of heavy metals. This opens up unlimited opportunities for brand differentiation, in-pack promotions or unique product identification. Brand protection or anti-counterfeiting is a further field in which there are good prospects for laser marking. The newly developed additive enables the smallest possible characters, texts and images or even consecutive serial numbers to be applied non-destructively. Typical fields of application are plastic packaging closures (screw tops, caps, etc.) and closures on metal packaging (cans or tubes). ACTELAR® is intended for use with laser marking equipment that operates in a wave range of 1064 nm (Nd:YAG lasers).

At the recommended concentration, the additive causes hardly any or no change to the specified colour of the plastics; where this is not the case, this effect can be compensated for using pigments. Laser markings with clear type are also possible on a transparent substrate. With a maximum processing speed of up to 9,000 mm per second, laser marking with ACTELAR® can achieve a very high level of efficiency and generate significant cost benefits compared with other marking systems. The use of Nd:YAG lasers does not incur any costs for solvents or consumable materials.

ACTELAR® is added in concentrations from less than 1% to 3%. It is supplied as granulate and can be dosed inline as well as being pre-blended offline in the desired concentrations. The additive can be added to the polymers that are mainly used in the packaging industry (HDPE, PP and PP copolymers, PA, PS or PET). With laser marking, the additive leads to optimisation of the four most important criteria: contrast, surface roughening, definition and marking speed – without significantly altering the physical properties of the plastics. Use is permitted in packaging systems in which ACTELAR® comes into direct contact with foodstuffs. ACTELAR® has unconditional approval for contact with foodstuffs according to FDA and European legislation (e.g. Federal Institute for Risk Assessment, BfR).

Laser marking protects brand individuality and authenticity
Diverse product innovations such as sports drinks with completely novel types of closure are being introduced worldwide. Branded cosmetic products, drinks or health care products are subject to intensive competition and are increasingly facing the problem of product piracy. Experts consider laser marking technology to

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Contact
Berni D. Rensink
Business Development Manager
Tel +49 421 39002-22
BerniDirk.Rensink@altana.com
www.actega.com

ACTEGA DS GmbH
Straubinger Strasse 12
28219 Bremen
Germany
Tel +49 421 39002-0
Fax +49 421 39002-79
info.ACTEGA.DS@altana.com
www.actega.com

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have very good chances of helping avoid this. With the new, heavy-metal free additive from ACTEGA DS GmbH, packaging manufacturers or plastics converters now have a product that enables their clients to apply the environmentally friendly, flexible and rapid laser marking technology to the most varied range of end uses.

Laser marking is also of great benefit when it comes to the tracing of products in the value-added chain because it stays permanently on the packaging and cannot be removed non-destructively. The example of a plastic drinks bottle closure shows just what potential is available. Laser marking can be used to produce information or images that are of relevance to logistics or marketing even in this relatively restricted space. The first promotional activities using this technology have already been used in the beverage industry. With in-pack promotions, brands can strengthen consumer loyalty, open up new customer groups or, for example, advertise new products.

About ACTEGA

The Division ACTEGA Coatings & Sealants is a member of ALTANA group. ACTEGA develops and produces specialty coatings and sealants for the packaging and the graphic arts industry. These products not only give materials such as paper, paper board, plastic and metal an attractive appearance, but also give the material surface clearly defined chemical and physical properties.

The main customer for the products developed, manufactured and sold by ACTEGA is the packaging industry. ACTEGA is the market leader in overprint varnishes and sealing compounds for closures and glass containers, in the case of water-based sealants for cans and coatings for flexible packaging ACTEGA is the technological leader.

The coatings guarantee not only that the packaging will look appealing, but also that the contents remain fresh for longer; those products make sure that soft surfaces become scratch resistant, metal does not rust and paper becomes non-sensitive for water.

The sealing products create a seal between two contact surfaces, such as glass on metal (bottle closures) or metal on metal (can ends); they ensure that the filling good (e.g. beer) remains inside the packaging and any contaminants (e.g. Oxygen, which causes beer to go stale) remain outside.

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