

THE GLOBAL COLORS NEWSLETTER



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POINTS OF INTEREST:

- Nanosilver antimicrobial concentrates for fibers are launched
- Optimized proposals for the UV stabilization of styrenics and PET extend end products useful life
- New multifunctional slip and mould release masterbatch for styrenics gives a boost to productivity
- Successful colors for POM are in market

THE "FLASH LINE": A NEW GCP PRODUCT LINE FOR SPECIAL EFFECT COLORS

Poland is an ideal market for injection moulded packaging goods for cosmetics. It is well known that many subcontractors of major cosmetic firms produce their plastic packaging goods in this country.

This market is characterized by the use of lively and impressive colors, the small production lots and the fast development and delivery of masterbatches to processors. The colormatching precision and product consistency are also key factors to success.

Global Colors Polska offers the "Flash Line", a new masterbatch portfolio for the cosmetics industry. Its color specialists have used their imagination and creativity to develop unique proposals, based on transparent, pearlescent or other special effect shades, creating value to end

users. These masterbatches can be used "as they are", or their recipes can be modified, in order to match the exact customer specifications. The Global Colors Polska lab is flexible to provide a test sample to a potential customer, at a minimum time.

Response time in production of regular orders of such masterbatches is also critical. The optimized production scheduling and the utilization of state of the art production equipment with maximum availability enable Global Colors Polska to deliver production batches in time.

Furthermore, the "Flash Line" masterbatches are supported by the Global Colors Polska customer service engineers, who collaborate with customers, providing all necessary information and technical assistance needed for these applications.

The "Flash Line" masterbatches are demonstrated in a nice color book, which is available for all plastics processors.

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Picture 1:
The "Flash Line" color book

A SUCCESSFUL FLAME RETARDANT FOR POLYCARBONATE ARTICLES

Kritilen FR PC501 is a polycarbonate based flame retarding masterbatch, which is used with success in the manufacturing of the transparent doors of electrical distribution boards. A well known manufacturer of lighting and electrical materials can confirm this.

FR PC501 contains a specially selected flame retardant addi-

tive, which:

- does not affect the optical properties of pure PC
- does not affect the density of pure PC, significantly
- is chloride and bromine free
- has a reasonable cost in comparison with competition grades

The recommended FR PC501 addition rate, in order to achieve VO (UL94, 1,6mm) is 1,6%.

Additional technical information, sample and Product Data Sheet are available, upon request.

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SPECIAL UV MASTERBATCHES FOR STYRENIC AND PET PRODUCTS

The UV stabilization of PS or ABS products is a difficult issue, as yellowing of end product can be developed, in case no proper UV stabilizers are selected.

In addition, nowadays, as the use of PET packaging expands, customers ask for additives which protect the PET bottle contents.

Plastika Kritis, having a long experience in UV stabilization of plastics, offers the following UV stabilizers, which provide solutions to the above mentioned problems:

- **Kritilen UV PS724:** It is used for the UV stabilization of PS or ABS articles. The indicative proposed addition rate is 3.5% (for PS) and 5% (for ABS). This addition imparts a proper stabilization for five years in Mediterranean climates for a pigmented end product with thickness of 2mm.
- **Kritilen UV PS7202:** It is proposed for the UV stabilization of PS, SAN or ABS articles. It protects end products from yellowing. The indicative proposed addition rate is 2.5%, in order to have a proper stabilization of end product for two years in Greece.
- **Kritilen UV PT2320:** It is added to PET bottles or other packaging media, in order to protect their content from UV radiation. Its indicative addition rate is 2%-4%.

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Picture 2:
PET bottles must provide protection of liquid content

NANOSILVER ANTIMICROBIAL TECHNOLOGY FOR FIBERS

The antimicrobial effect of silver has been proven long time ago, when the sailors used to put silver items into the barrels containing fresh potable water.

Nowadays, bacteria become more and more resistant to antibiotics. The pharmaceutical industry has started to develop stronger and stronger antibiotics. The stronger the antibiotics are, the more resistant the bacteria become. Microbiological studies have shown that silver is still an effective "weapon" against today's "trained" bacteria, destroying the cell's wall more efficiently and faster than any antibiotics. This trend had guided Romcolor to run for the "Silver"!

Romcolor has taken advantage of the latest fashion of nanosilver, that is pure

silver of less than 20nm spherical shape, stabilized into water at 25% loading. The difficult job is to remove the water from the system without creating silver particles agglomeration. The things are more complicated when moisture sensitive resins (i.e. PET, PA etc) are involved.

However, Romcolor has made it. It offers Rombest AM PP6500NANO, which is a masterbatch containing a nanosilver antimicrobial agent and based in a gas fading resistant homo polypropylene carrier. This product is particularly recommended for use in the PP fibers sector, as it demonstrates excellent dispersion in a fine sieve test.

Rombest AM PET6500NANO is based in a PET carrier and is contains the

same nanosilver antimicrobial as AM PP6500NANO. Its unique properties, in terms of dispersibility and low moisture content make this masterbatch an excellent choice for PET fibers production.

Plastic processors now can benefit from the above products, in the sense that they can use a cost efficient antimicrobial agent with permanent action. Romcolor's customer service team is able to provide specific guidance for the optimum utilization of the new nano antimicrobial masterbatches.

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"Plastic processors now can benefit from the above products, in the sense that they can use a cost efficient antimicrobial agent with permanent action".

SLIP AND MOULD RELEASE AGENT FOR STYRENICS

Kritilen SL PS7720 is a new slip masterbatch for PS-GP and HIPS applications, developed by Plastika Kritis.

Potential end applications are cosmetic bottles and jars, food containers and trays, CD cases, plastic furniture and plastic houseware.

This masterbatch contains 20% of a special slip agent in a PS-GP carrier. It rapidly reduces the static and kinetic friction on the surface of the styrenic polymer. Tests have

shown friction is reduced on average by 36% in HIPS and 40% in GP-PS. This performance is long-lasting and achieved by adding 2%-2.5 % of Kritilen SL PS7720.

This product also offers a reduction in mould release force of typical 20% in HIPS and 32% in PS-GP. By allowing mould release at higher ejection temperature, the cycle time of production is reduced and productivity is increased. Furthermore, production scrap is reduced. Kritilen SL PS7720 does

not affect the color and clarity of the polymer over its life time. It is produced using an additive, which, according to its manufacturer, is produced from naturally derived vegetable based materials and is GMO free. It is permitted for use in food contact plastics in the EU and has specific indirect food contact approval in the USA.

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Picture 3:
SL PS7720 is ideal for food trays made of polystyrene

MASTERBATCH SOLUTIONS FOR PP STRAWS

The production of polypropylene straws for refreshments is a process that involves various production and quality requirements.

Production must run at highest output rates. The actual productivity is influenced by the pre-set kg per machine hr, but also by the extruder idle time that occurs due to die deposits that should be removed.

In terms of quality, the consistency in color and the best organoleptic properties (mainly odour) are highly required.

Plastika Kritis can offer a solution package to straw manufacturers or solving above potential problems.

The productivity increase can be achieved by eliminating idle time due to the cleaning of die deposits. Kritilen

masterbatches such as Yellow 11417, Orange 21715 and Magenta 31459 contain low plate-out fluorescent pigments that easily melt into the polymer matrix, exhibit excellent homogenization with it and do not migrate on the straw extruder die. Besides, the side effects of such masterbatches in end products are good printability (as pigment does not migrate) and improved heat and color stability.

Alternatively, Kritilen Yellow 11640, Orange 21746, Magenta 31491 and Green 51830 contain conventional fluorescent pigments and a polymer processing aid, which allows the straw manufacturer to operate at a lower melt pressure and temperature, achieving, at the same time, productivity increases, lower friction (and consequently low odour levels at straw),

lower die deposits and a more shiny end product.

Odour development can be a nightmare for straw producers. It can be caused by high melt temperature and friction, inefficient straw cooling after extrusion or other equipment related reasons. In order to assist the end producer to reduce the odour levels, besides the use of above mentioned color masterbatches, the addition of 3%-5% Filler 565 is proposed. Filler 565, due to its rheology, can be properly homogenized with polypropylene and also has a high thermal conductivity that facilitates a faster straw cooling.

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Picture 4: Various shades of fluorescent straws become more and more popular

NEW COLOR MASTERBATCHES FOR POLYACETAL PRODUCTS

Polyacetal (POM) is distinguished by a high degree of rigidity and mechanical strength, outstanding resilience, optimal dimensional stability as well as an excellent resistance against a variety of chemicals. Because of these properties, POM is often utilized for the manufacture of precision parts.

POM can be processed by injection moulding or extrusion for the most diverse demands. Many polymer suppliers provide POM as a plastic granulate. This is then transformed by the processing industry into, for example, gas

tank caps, seat-belt release buttons, fasteners, plumbing fittings, parts for coffee and espresso makers, ventilator rotors, ball and roller bearings and much more.

Plastika Kritis has developed a significant number of LLDPE based masterbatches, which have been approved by a major Greek plastic pipes processor, for use in the production of POM pipe parts. The LLDPE carrier has shown a very good compatibility in POM and offers a significant cost advantage in end user.

The list of these products in-

cludes Yellow 11339, Orange 21758, Red 31370, Pink 31369, Violet 35973, Green 50860, Green 50861, Blue 41136, Brown 71753 and Grey 91602.

The pigments used in the above mentioned recipes have a high heat resistance status (>260 deg. Celsius) and, of course, are recommended by their suppliers for use in the coloration of POM. This is the major criterion of success in such developments.

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MULTIFUNCTIONAL ADDITIVE FOR PVC

Global Colors z.a.o. has developed and launched a number of PE based color masterbatches (e.g. PY7101, PY7102, PY7106, PY7107 etc), which also include a special multifunctional additive in their formulations.

These masterbatches are proposed for use in PVC siding applications and their success is proven at the production of a major Russian PVC siding pro-

ducer.

The special additive used in these color recipes offers not only high impact strength and improved mechanical properties, but also excellent melt stability at increased output rates during processing.

These masterbatches, with their remarkably excellent properties, enable manufacturers to produce high quality, complex PVC products at very high output

rates. They exhibit significant color stability and durability, can retain original appearance during long-term outdoor exposures and under adverse weathering conditions.

Global Colors zao can develop customized solutions, by incorporating this special additive in any color masterbatch.

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Picture 5: Effective additive improves PVC siding processing

BLACK MASTERBATCHES FOR POLYPROPYLENE FIBERS

Plastika Kritis has enriched its portfolio of PE based black masterbatches for polypropylene fibers.

It is well known that differences in shade, tinting strength and gloss are much more important in the PP fibers sector than in plastics. Even small deviations from requirements can cause headaches to textile producers. Because of this, Plastika Kritis has established three alternatives, which exhibit an excellent processing behavior in fiber extrusion and spinning, but they contain different carbon black pigments. The main differences in these carbon black pigments is the shade, gloss and undertone. Customers now can select the right product for them from a wider range of mas-

terbatches. This new portfolio consists of the following products:

1. **Black 4401P:** This contains 40% of a premium P type carbon black in LLDPE carrier. This is the standard version and has excellent dispersion for fiber applications. It contains a pigment which is stable, in terms of shade and tinting strength, but it is the most expensive in comparison with the following grades.
2. **Black 4410P:** This contains 40% of another premium P type carbon black in LLDPE carrier. This is a new version and has excellent dispersion for fiber applications (same or maybe better in comparison with 4401P). It contains a pigment which is stable, in
3. **Black 4411P:** This contains 40% of an alternative P type carbon black. This product is an excellent choice for CF fibers.

Yarn producers can benefit from the use of these masterbatches, as they are cost efficient solutions. The excellent dispersion of carbon black in the polymer matrix and the optimized rheological properties of the fiber grade Kritilen black masterbatches make them the preferred choice for many fiber producers in Turkey, Syria, Egypt, Greece etc.

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Picture 6: Black polypropylene yarn producers are very sensitive in shade, tinting strength and gloss differences.

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GLOBAL COLORS is an international Group serving the plastics industry with high quality color and additive concentrates. It ensures competitive solutions and localized service with a number of modern production plants in strategic locations.

All Group companies share the same technology, know-how, quality standards, economies of scale, financial resources, range of products and new developments. Decentralized management and marketing ensure a high level of responsiveness to customer requirements combined with fast and flexible decision-making.

The Group's annual production capacity exceeds 40000 MT.

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