



COLLOIDS MASTERBATCH IGNITING SCIENCE WITH CREATIVITY



COLLOIDS

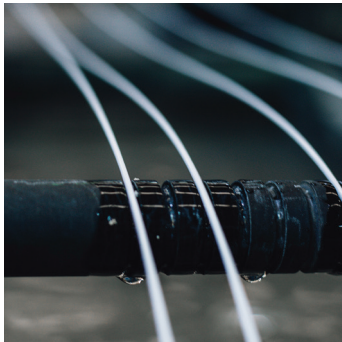
THE MAKERS OF MASTERBATCH

A MEMBER OF THE **TOSAF** GROUP



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COLOURS FOR PLASTICS



Most Thermoplastics in their natural state are either transparent, translucent, cream, beige or white in colour. These natural thermoplastics are often coloured to make them more attractive and modified with additives and or fillers to improve their technical performance. Most customers prefer to use masterbatches as a way of colouring or modifying these natural Thermoplastics as this tends to be the most cost effective option. A masterbatch is a concentration of colour and or additives that is added to the natural Thermoplastic at a specific percentage, typically between 1 to 5%. Colloids are one of the few masterbatch companies who manufacture a full range of black, white, additive and coloured masterbatches. Colloids can also offer a wide range of fully formulated thermoplastic compounds for those customers who might prefer this option or where the masterbatch route isn't deemed feasible.

Colloids have designed a comprehensive range of specific masterbatches for use in Injection/Blow Moulding, Sheet/Profile Extrusion, Cast/blown Film and Tape and Fibre applications.

We have a standard range of masterbatches specifically designed for use in both blown and cast film and a standard universal range suitable for all other applications, but especially suited for blow and injection moulding applications. We also offer a bespoke colour matching service.



ENHANCING PERFORMANCE OF PLASTICS



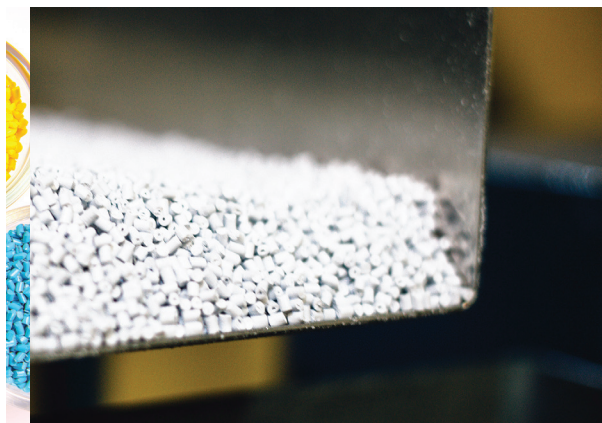
In addition to colours, additives and fillers can also be added to enhance the performance of the base polymer properties such as; UV stability, flame retardancy, anti-slip, anti-block, anti-static, electrical conductivity, density, hardness, scratch resistance, mould release, cycle times, plus many other properties can all be achieved with the right modification.

BENEFITS OF MASTERBATCH



- The pigments and or additives used with the masterbatch are optimally dispersed which results in a higher quality of product
- Ease of use and dust free – due to handling of small pellets as opposed to fine powders or liquids which can pose a greater risk to health and safety
- The development of the formulation is carried out by the masterbatch supplier who then takes greater responsibility for the colour consistency and technical performance of the end application, thus reducing the risk for the processing company
- Lowers the stock holding compared with pre-compounded materials
- Reduced time and costs in cleaning and purging
- Reduction in waste

TYPES OF MASTERBATCH



POLYMER SPECIFIC MASTERBATCHES

These masterbatches are produced using the same base polymer group as the type being used by the processor. They can be pre-dried with the host polymer and added at high loading without compatibility problems.

UNIVERSAL MASTERBATCHES

Universal masterbatches are based on a specific formula designed to work across a range of polymers, provided that the recommended addition rate is not exceeded. Universal masterbatches are used to avoid having to purchase the same colour in lots of different bases to allow better stock management and lower costs.

COLLOIDS MAXIM
UNIVERSAL MASTERBATCH
RANGE OFFERS OVER

200+
STANDARD COLOURS

WITH A SMALL MINIMUM ORDER
QUANTITY OF 1KG AND
NEXT DAY DELIVERY



COLLOIDS



Masterbatch manufacturing specialist Colloids Ltd, established in 1967, is a global supplier of high performance masterbatch. Part of the multinational Tosaf Group, Colloids works with plastic processors in a variety of industrial sectors such as packaging products, consumer goods including personal care and electrical and electronic devices, and industrial products used in building and construction, automotive and transportation market applications.

Colloids continuous investment in R&D enables development of new and improved solid masterbatch products to address the latest market needs for more technically advanced applications. Customers are increasingly asking for new, more exotic colours and effects, reduced processing costs, and higher product performance. A growing number of environmentally conscious companies in the polymer industry are also looking to reduce energy consumption and to have the option to use raw materials from a sustainable source with compatible coloured masterbatch products. So whatever your plastic needs are, Colloids will have a solution.



COLLOIDS COLOUR MASTERBATCH

Colloids manufacture a comprehensive range of Colour Masterbatch products that are used extensively throughout the thermoplastics industry. We have a wide selection of standard colours available from stock, including a range of colours suitable for outdoor applications with excellent weathering properties. The range includes high opacity colours in addition to tints as well as specialities such as metallic, pearlescent, thermochromic and glow-in-the-dark effects. When required we can provide products to meet the relevant food contact, toy and waste packaging regulations.

For non standard applications we offer a rapid colour matching service creating masterbatches specific to our customers needs. Bespoke colours can be engineered to encompass a whole range of effects and finishes for some of today's most demanding markets. We can also develop and produce coloured products incorporating differing functional properties such as antistatic, UV stability and mould release.



Maxim® is Colloids Universal Masterbatch Range:

- 200 colours
- Ideal for 26 polymers including PVC, Polyamide, ABS
- Average let down of 1%, helps cut your stock
- Free 100g samples
- Low minimum order from 1Kg
- Fast next day delivery

Colloids also have a bespoke colour matching, additives and special effects service.



COLLOIDS BLACK MASTERBATCH

Colloids manufacture a comprehensive range of Black Masterbatch products that are used extensively throughout the plastics industry. Our product ranges are particularly suitable where special attributes are required. UV stability, resistance to high temperatures and friction reduction qualities are just some of the properties demanded in our customers' end products. When required we can provide products to meet the relevant international food contact, toy and waste packaging regulations.



Our product range includes:

- COLLOIDS Speciality Black Masterbatch based on a wide range of polymers for use in highly demanding product applications
- COLLOIDS Functional Black Masterbatch based on polyolefins providing highly cost effective solutions for commodity applications
- PACE® engineering polymer specific masterbatches designed especially for the advanced thermoplastics industry (PA, PET, PBT, PC etc.)
- E-TEC® conductive compounds

ENVIRONMENTAL GRADES

- D-K® brand has been developed as a result of Colloids commitment to environmental responsibility

This range is marketed under the D-K® brand and includes a number of options:

- D-K® 100 – a pro-degradant additive masterbatch designed to cause conventional polymers to degrade and disintegrate
- D-K® 200 – coloured masterbatches based on biodegradable and compostable polymers designed for use in flexible applications
- D-K® 300 – coloured masterbatches based on biodegradable and compostable polymers designed for use in rigid applications

Colloids are accredited with the ISO/TS 16949 automotive quality standard and through our Technical, Speciality and Functional Black Masterbatch, Colloids offer one of the most comprehensive ranges available from a single source. Colloids can also develop and produce customer specific formulations in conjunction with our Technical department.

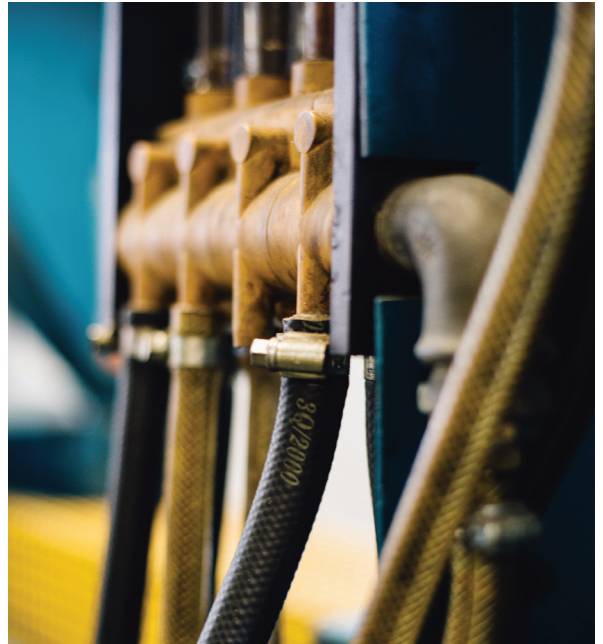


COLLOIDS ADDITIVES MASTERBATCH

Colloids supply a comprehensive range of Additive Masterbatch products that are used extensively throughout the thermoplastics industry. We have a selection of standard additive masterbatches available from stock. The standard range includes but is not limited to:

- **Antiblock** – prevents films sticking together during and after processing
- **Antifog** – maintains clarity of food packaging and agricultural films
- **Antioxidants** – inhibits polymer oxidation (colour/polymer degradation, gels and black specks)
- **Antislip** – increases coefficient of friction to prevent slip of stacked PE bags
- **Antistatic** – prevents dust pick-up and build up of static charge
- **Blowing Agents** – lowers density reducing part weight leading to lower costs
- **Degradable** – causes standard polyolefins to degrade
- **De-lustre** – gloss reduction and value adding polymer extender
- **Denesting** – prevents stacked mouldings sticking together during storage
- **Flame Retardants** – offers varying degrees of fire resistance
- **Mould Release** – prevents parts sticking in the mould
- **Nucleating Agent** – improves cycle time and polymer crystallinity, foam nucleator
- **Paper Like** – creates paper feel polymer film
- **Process Aids** – improves processing by reducing melt fracture leading to increased output
- **Slip Agents** – reduces coefficient of friction – often used in conjunction with antiblocks
- **UV Stabiliser/Absorbers** – prolongs life of part exposed to UV/packaging contents

We also provide additive masterbatches based on other polymer systems such as ABS, ASA, EVA, PA (Nylon), PBT, PET, PE, PP, PS, SAN and universal carriers.



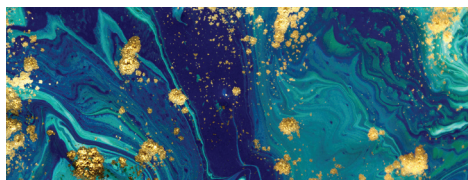
COLLOIDS SPECIAL EFFECTS MASTERBATCH

Colloids also offer a bespoke colour and polymer carrier specific service. Significant advancements have been made by Colloids in the colouration of polyesters to improve colour distribution and the ability to use a wider gamut of colours, including fluorescents and special effects.

Colloids also have a new range of multi-functional masterbatches delivering both colour additives allowing for shorter cycle times to be achieved, improved surface appearance of the final product, ease of mould release in large components and reduce waste.

MARBLE EFFECTS

Marble effects are created by carefully selecting and modifying a masterbatch carrier system so that it does not readily melt and homogenise with the base polymer. The Colloids laboratory has developed a number of proven carriers for most polymer systems.



SYNTHETIC PEARL

This new range of pearlescent colours has been produced using 100% synthetic mica and synthetic pigments. In addition to the ethical values of this range the synthetic mica also has a higher lustre and brightness than traditional pearlescent pigments.

FLUORESCENTS

One of the biggest problems with using fluorescents on long runs, is the gassing and plate-out, this staining of the tooling can require stopping the line to clean to prevent mould defects and persistence of the colour in the barrel can make change over time consuming – to solve this we would recommend one of our low-plate out masterbatches these have been proven to significantly reduce if not eliminate this issue. We are able to supply fluorescent masterbatches for polyolefins, polyamides, polyesters and styrenics.

GLITTER EFFECTS

Colloids are also able to offer new silver based glitters which have significantly higher light reflectance and improved aesthetics. Colloids UK has a wide range of processing equipment available and the Technical Team take the processing into consideration when formulating to avoid damaging the effect pigment during the masterbatch process.



PEARLESCENT & METALLIC EFFECTS

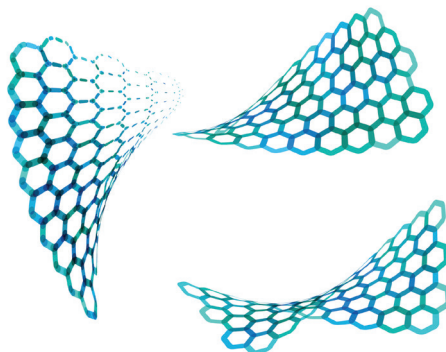
The Technical Team at Colloids are constantly evaluating the latest pearlescents from all the major suppliers. Matching the pearlescent effect can be subjective and relies on skill, experience and an understanding of how the Customer will view the product. Matching using a curved surface brings to life the lustre, Colloids has developed a specific tool to help matching and customers approval of the colour and effect.

LASER MARKING

Colloids have a number of technical solutions to offer laser marking in PP, PS, ABS, PA6, PA66 the formulations have all been proven and colourants are selected to enhance the marking effect. The masterbatches enhance the effect of the laser to either improve the charring, to create a dark mark, or improve the foaming to create a light/white mark.

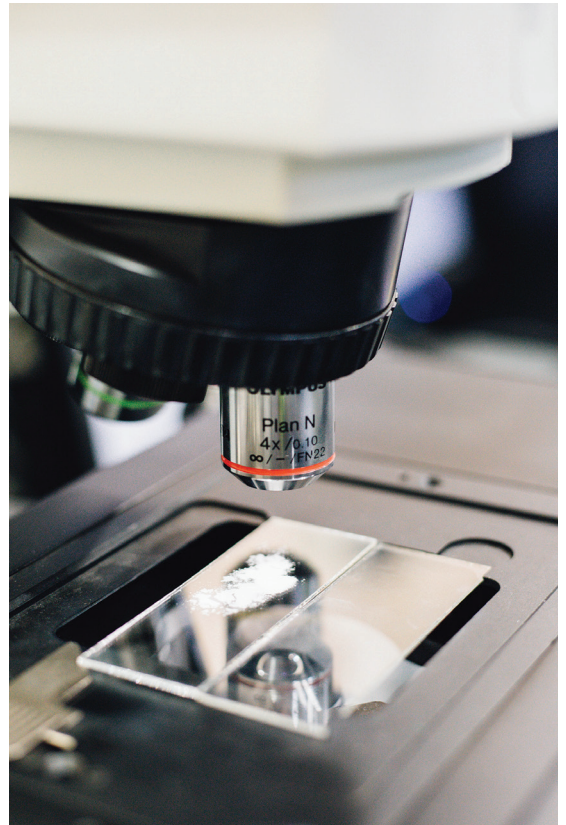
CARRIERS

Masterbatch carrier systems should be formulated so as to maximise dispersion of the masterbatch whilst maintaining the lowest cycle speeds and where possible enhance the characteristics of the polymer. Colloids Technical Team has worked on fine tuning and are constantly improving our carrier systems so that they are compatible and impart perfect colour in the final product. For each polymer we have a proven standard solution, for occasions where that is not preferred we can formulate a polymer specific mix.



COLLOIDS POLYMER COMPATIBLE CARRIERS

		POLYMER SPECIFIC	COLLOIDS CARRIER
LDPE	LOW DENSITY POLYETHYLENE	✓	✓
HDPE	HIGH DENSITY POLYETHYLENE	✓	✓
PPH	POLYPROPYLENE HOMOPOLYMER	✓	✓
PET	POLYETHYLENE TEREPHTHALATE	✓	✓
ABS	ACRYLONITRILE BUTADIENE STYRENE	✓	✓
MABS	METHACRYLATE ACRYLONITRILE BUTADIENE STYRENE (TRANS ABS)	✓	✓
PC	POLYCARBONATE	✓	✓
HIPS	HIGH IMPACT POLYSTYRENE	✓	✓
GPPS	GENERAL PURPOSE POLYSTYRENE	✓	✓
SAN	STYRENE ACRYLONITRILE	✓	✓
PA6	POLYAMIDE 6	✓	✓
PA6,6	POLYAMIDE 6.6	✓	✓
PAI2	POLYAMIDE I2	✓	✓
EVA	ETHYLENE VINYL ACETATE	✓	✓
EMA	ETHYLENE METHYL ACRYLATE	✓	✓
EBA	ETHYLENE BUTYL ACRYLATE	✓	✓
PBT	POLYBUTYLENE TEREPHTHALATE	✓	✓
POM	ACETAL – POLYOXYMETHYLENE	✗	✓
PVC	POLYVINYL CHLORIDE	✗	✓
PLA	POLYLACTIC ACID	✓	✓
PMMA	POLY METHYL METHACRYLATE	✓	✓
TPE	THERMOPLASTIC ELASTOMER	✗	✓
TPU	THERMOPLASTIC POLYURETHANE	✗	✓



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