

Super Concentrate Microspheres

BY CASTELBERG

Castelberg's latest state-of-the-art patent pending technology called „Super Concentrate **Microspheres**“ is the result of ongoing research in common fragrance scent aroma, taste and flavor challenges that affect most products where both scent and sense is key.

Castelberg technology is one of the most versatile and economical multi sensory delivery systems available which enables enhancement of any scent advertisement or brand packaging by providing packaging that satisfies the need for amongst other things.

- **Fragranced packaging on the outside**
- **Added headspace aroma when package is opened**
- **Enhancement of desirable flavour aromas in the packaging used**
- **Ability to mask or improve malodors from flavours, ingredients or formulas used in the product within the packaging used**
- **Enables the shelf life of packaging the packaging to be extended**
- **Mitigating the effects of off taste from plastic packaging**
- **Mitigating the effects of flavor scalping**

Listed below are a few other examples of additives that can be routinely reloaded into Castelbergs Microspheres structure:

- **Fragrances & Aromas**
- **Antimicrobials**
- **Antioxidants**
- **Performance Additives**
- **Peroxides**
- **Process Stabilizers**
- **Coupling agents**
- **Anti Static Agents**

Especially suitable is the use of microspheres in the field of conventional extrusion compounding process as it makes them particularly suitable for the master batch addition technique. Microspheres can also be converted to use as additives in several thermal polymer processing techniques such as

- **injection molding**
- **blow-film**
- **co-extrusion processors**
- **compounding**
- **all common printing processes**

Castelberg uses a patented state-of-the-art form of microspheres called **ScentRetardant Varnish®** made by Castelberg Germany. These spheres can be dispersed into a variety of overprint varnish or coating systems. ScentRetardant Varnish® is integrated directly into the printing process and is applied as a clear overprint varnish or coating onto printed surfaces. There is virtually no visual effect to the printed graphics underneath.

Castelbergs ScentRetardant Varnish® is one of the most versatile and economical scent delivery systems available. Supplied as an overprint varnish or coating, it enables virtually any printer to apply scent as easily as a fifth color or spot coating.

The amount of scent and its intensity is generally determined by size of the scented area. So a larger scented area will yield more scent rendition. Unlike traditional gelatin based micro encapsulation products Castelberg Microspheres last for much longer period, giving them a much longer shelf life.

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Castelberg's microspheres are highly efficient and can be used in a variety of ways in many production techniques all originated from one initial production.

Using the liquid or paste from the (Aroma/ Fragrance / Essential oils) mixed with the polymer additives ultimately producing dry, free-flowing pellets "super concentrate Microspheres". Regardless of any dosage needed dependent to the aroma/scent amount. Castelbergs microspheres are especially suited as a carrier for liquid or low melting polymer additives.

The microspheres can be easily reloaded at low temperature with liquid or soluble additives. The maximum loading capacity is 75 % by weight. An additional advantage is the fine dispersion of the additive in the Microspheric structure which insures a homogeneous dispersion of the additive in the final product.

Microspheres can be supplied as an overprint varnish or coating which enable any printer to apply the scent as easily as an additional colour or spot coating. The microspheres system is integrated into the printing process and is applied as a clear overprint varnish or coating onto printed surfaces. There is virtually no visual effect to the printed graphics underneath.

The capsules can be dispersed into a variety of overprint varnishes or coating systems for

- **Heat set or sheet fed offset, overprint varnish**
- **Aqueous coating for offset, flexo and silk screen applications**
- **Gravure (toluene and aqueous) overprint varnish**
- **UV and EB overprint varnish**

Applications:

- **Handouts, PreScented POS (Point of Purchase Advertisement) Scented coupons cards, Scented Cards)**
- **Catalogs, Direct Mail, and FSI's**
- **PreScented Magazine Advertisement (PreScented Cards, Scented Inserts, Scented Blow ins)**
- **PreScented Packaging (outer carton, inner carton, ScentMedium Inserts)**
- **Various Customized PreScented Assorted Products Flyers, Inserts, Cards, Silk Paper, Tissue Paper, Tickets, gift cards....**
- **Selfadhesive Labels for common Labelling technologies**