

## Marcus Wax Applications In Candles

Marcus wax to enhance appearance and burning of candles

### Polyethylene Wax In Candles

**H**igh quality candles demanded by today's consumers often requires the use of additives to enhance properties of the base paraffin wax.

New techniques of manufacturing and crafting candles has also required that the properties of paraffin be enhanced to provide the best results both aesthetically and in burning of candles.

Marcus Low Molecular Weight Polyethylene wax is an ideal additive for enhancing the properties of paraffin wax used in candles.

Use of Marcus Polyethylene wax at a level of 1-4% can be used to improve the following properties of candles:

- Opacity
- Drip
- Color
- Scent
- Mold release
- Gloss
- Burning time
- Strength

**O**paquity - Paraffin wax is naturally translucent. It is often desirable to enhance the uniformity and reduce mottling appearance of candles by making them opaque. This can be accomplished with the addition of only a few percent by weight of Marcus wax.

**D**rip- Typical paraffin's used in candles have melt points of 130-145°F depending on the type candle being produced. Direct addition of a few percent Marcus wax to the paraffin will help reduce dripping. Another technique is to add a slightly higher level (up to 4%) of Marcus wax into paraffin that will be used as a veneer on the outer coating of the candle.

**C**olor- As molten paraffin cools it forms crystals. Smaller crystal formation has the benefit of increasing oil and dye holding capacity of the paraffin. Dyes are often added to paraffin. Small quantities of Marcus wax, well dispersed in paraffin, will aid in nucleation of paraffin and formation of smaller crystals with enhanced color fixing capacity.

**M**ost Marcus Polyethylene waxes (M200, M300, & M500) have melting points well above that of traditional paraffin's used in candle wax. To completely melt these grades of Marcus wax requires melting to temperatures in excess of 125°C. Proper dispersion of the Marcus wax in paraffin requires melt temperatures be maintained during mixing and dilution.

**S**cent- Scents that are added to candles are usually in the form of oils. Like colorants, the use of Marcus wax can help encapsulate scent oils and allow for more uniform release.

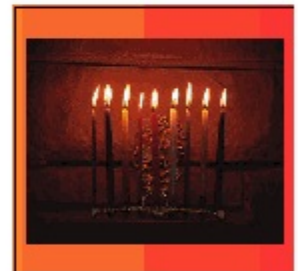
**M**old release- polyethylene has good mold release properties due to its low surface energy property.

**G**loss- Marcus Polyethylene waxes have good gloss and can impart a durable and attractive outer surface to candles. This can reduce surface blemishes due to handling and packaging.

**B**urning time- Burning rates depend on many factors including type of paraffin, design of candle and wick characteristics. Addition of Marcus Polyethylene wax to paraffin can extend candle life by reducing dripping and less puddling of the wax during burning.

**S**trength- Marcus Polyethylene waxes impart strength and durability to paraffin. This can be accomplished through use of an outer dip or dispersing.

**S**afety should always be the number one consideration in making candle. This applies to both safe manufacturing and safe burning of candles. The information contained herein is intended as a guideline - and not a substitute for safety training, education and well designed, manufactured and tested candles.



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