

It is no secret these days that the candle market has become more competitive. Retailers and consumers have become 'price-sensitive' to the many types of candles available in the market. Of all the basic types of candles, votives, container candles and pillars are currently the most popular. One of the essential requirements to develop a candle-making company in this growing market is to expand the product range on offer. These days, many of the non-traditional candle retailers offer different types of candles to the consumers. Supermarkets, in general, offer candles for sale in three or four different departments, and now even hardware stores carry a line of candle products. Interestingly, health stores and also the local stores selling tobacco products display candles for sale on their shelves. With these additional 'new' retailers, a candle manufacturer can cater for the demand for new products specific to these markets.

A new product, for example in candle making, can be as simple as offering a new line of fragrances, filling newly designed containers, or providing new shapes or sizes of the pillars. Other ways of expanding the product range include exploring new types of candle products. These would include natural wax candles, gelled candles, special quartz-look waxes, or the reintroduction of some of the past types of novelty candles which are beginning to make a resurgence.

Many of these products offer unique opportunities for small candle-making companies to utilise their strengths and skills in capturing the current local hot trends. Candle gel is a good example. Candle manufacturers can create candles to match local interest. Among the gelled candle decorations, beach designs are expected to become very popular. Fruit and flower candle gels are always popular for local events. Traditional candle waxes are not quite able to cater for or penetrate into this area of creativity.

## PALM-BASED CANDLE GEL

A new innovative palm-based candle gel which is transparent has been successfully developed from palm oil materials (Figure 1). The candle gel which



(a) Top view of different candle gel designs.



(b) Side views of candle gel.



(c) A beautiful lighted candle gel.

Figure 1. Candle gel from palm oil materials.

**TABLE 1. PHYSICAL COMPARISON BETWEEN CANDLE GEL AND CANDLE WAX**

Parameter	Description	
	Candle gel	Candle wax
Cracking	none/ minimum	none/ minimum
Air pocket	none/ minimum	not known
Shrinkage	none/ minimum	none/ minimum
Flame size	0.5–1.5 cm	0.5 – 2.0 cm
Odour	good	good
Shelf life	stable	stable
Burning	little smoke	little smoke
Dispersivity of dye	easy and stable	easy and stable
Even burn	stable	stable
Burning life	2.5-3.5 h/20 g	< 2 h/20 g
Appearance	transparent (TI > 0.9)	solid (NA)
Cure time	fast (in seconds)	slow (in hr)

Note: TI – transparency index; NA – not applicable.

can be moulded into various shapes can also have materials and objects suspended within it for ornamental purposes. People will love candle gel because it is transparent, which means you can see through it. Candle gel is slightly different from the materials of the usual vegetable/paraffin wax composition (*Table 1*). By having appropriate compositions in the candle gel formulations, one can increase their transparency. Candle gel can also hold more fragrance oil than the traditional waxes. Besides having a fast curing time, the burning rate of this palm-based candle gel is also slower than that of paraffin wax.

### **MARKET ANALYSIS**

Research on the candle industry indicates that the most important factors affecting candle sales are scent, colour, cost and shape. The retail price of a candle generally ranges from approximately RM 1.50 for a votive to RM 91.00 for a large pillar or jar candle. Highly unusual or embellished artisan candles can cost RM 620.00 or more for each item.

Consumers are increasingly purchasing candles as a focal point for their home décor, and for aromatherapy-like relaxation and stress reduction. Fragrance is by far the most important characteristic impacting candle purchases today, with 75% of the candle buyers saying that it is ‘extremely important’ or ‘very important’ in their selection of a candle. The majority of consumers use their candles within a week of purchase. Nine out of 10 candle users say that they use candles to make a

room feel comfortable or cozy. Approximately 75% of candle users say that they typically burn candles for 4 hr or less per sitting. Candle users say that they most frequently burn candles in the living room (42%), followed by the kitchen (18%) and the bedroom (13%). Approximately 20% of the women said that they used candles to decorate the yard, patio or other exterior areas, as well as the interior of their homes. Both men and women consider candles to be an always-acceptable and highly appreciated gift for a wide variety of occasions. Candle purchasers say that they view candles as an appropriate gift for the holidays (76%), as a housewarming gift (74%), a hostess/dinner party gift (66%), a thank you gesture (61%) and as birthday gifts for adults (58%) (Datamonitor, 2003).

The candle industry has achieved growth mainly because of the increase in the number of women (the primary candle buyers) and the increase in the number of households. The ‘greening’ of the market has also resulted in alternative-based candles made from materials such as soyabean oil, beeswax and palm oil. The market for decorative candles was estimated to be worth USD 7.1 billion in 2006. Asia and the East Asia comprised the largest market, worth USD 2.6 billion or 35.87% of the world market, followed by North America and the Caribbean at USD 1.8 billion or 25.65%, and then Europe at USD 1.8 billion or 25.24% of the world market. In essence, if candle makers target these top three regions, they could capture 86.76% of the global latent demand for decorative candles. The world market for decorative candles

is estimated to increase from USD 7.1 billion in 2006 to USD 10.3 billion in 2011. In Malaysia, the market for decorative candles is estimated to be worth USD 38 million in 2006, and is expected to increase to USD 59 million in 2011 (Parker, 2005).

### **ECONOMIC ANALYSIS**

Palm-based candle gel offers unique opportunities to interested parties which can utilise their strength in capturing the current local interest. Parties which have the artistic ability can create products-based on candle gel to match the consumers' liking, especially when the candles are utilised as a focal point for their home décor, aromatherapy-like relaxation and stress reduction. The investment and payback period of the palm-based candle gel business is given below:

Capital investment	= RM 89 530.00
Operational cost	= RM 758 311.00
Production capacity	= 20 t yr <sup>-1</sup> @ 50 kg batch <sup>-1</sup>
Payback period	= 2 years
Net Present Value (NPV) @ 20%	= RM 81 644.89
Price margin	= 30%
Internal Rate of Return (IRR)	= 124%

### **POTENTIAL TAKERS**

Candle manufacturers and handcraft manufacturers.

### **BENEFITS**

- Palm-based candle gel has its very own unique feature that cannot be found in any other types of candle wax as candle gel is transparent in nature.
- The palm-based candle gel can be easily moulded into various shapes, from aquarium candles, beer mugs, wine candles to iced tea candles. This feature of the palm-based candle gel allows the candle maker more flexibility and creativity, thus the candle gel can be utilized more effectively.
- The transparent gel provides an excellent platform for incorporating objects (e.g. small ornaments) into the candle. The resulting floating effect or suspended effect can enhance the beauty of the candle.

### **CONCLUSION**

Candle gel which is normally made from petroleum-based material can now be produced from palm-based materials. This palm-based candle gel is transparent and can hold more fragrance. It also has a longer burning time and is more attractive in appearance than the conventional candle waxes.

### **REFERENCES**

- DATAMONITOR (2003). *Market Profile: United States – Giftware*, Datamonitor. London, United Kingdom.
- PARKER, P M (2005). *The 2006-2011 World Outlook for Decorative Candles*. ICON Group International Inc, San Diego, United State of America.

For more information, kindly contact:

Director-General  
MPOB  
P. O. Box 10620  
50720 Kuala Lumpur, Malaysia.  
*Tel:* 03-8769 4400  
*Fax:* 03-8925 9446  
[www.mpob.gov.my](http://www.mpob.gov.my)