

MasterCraft[®]

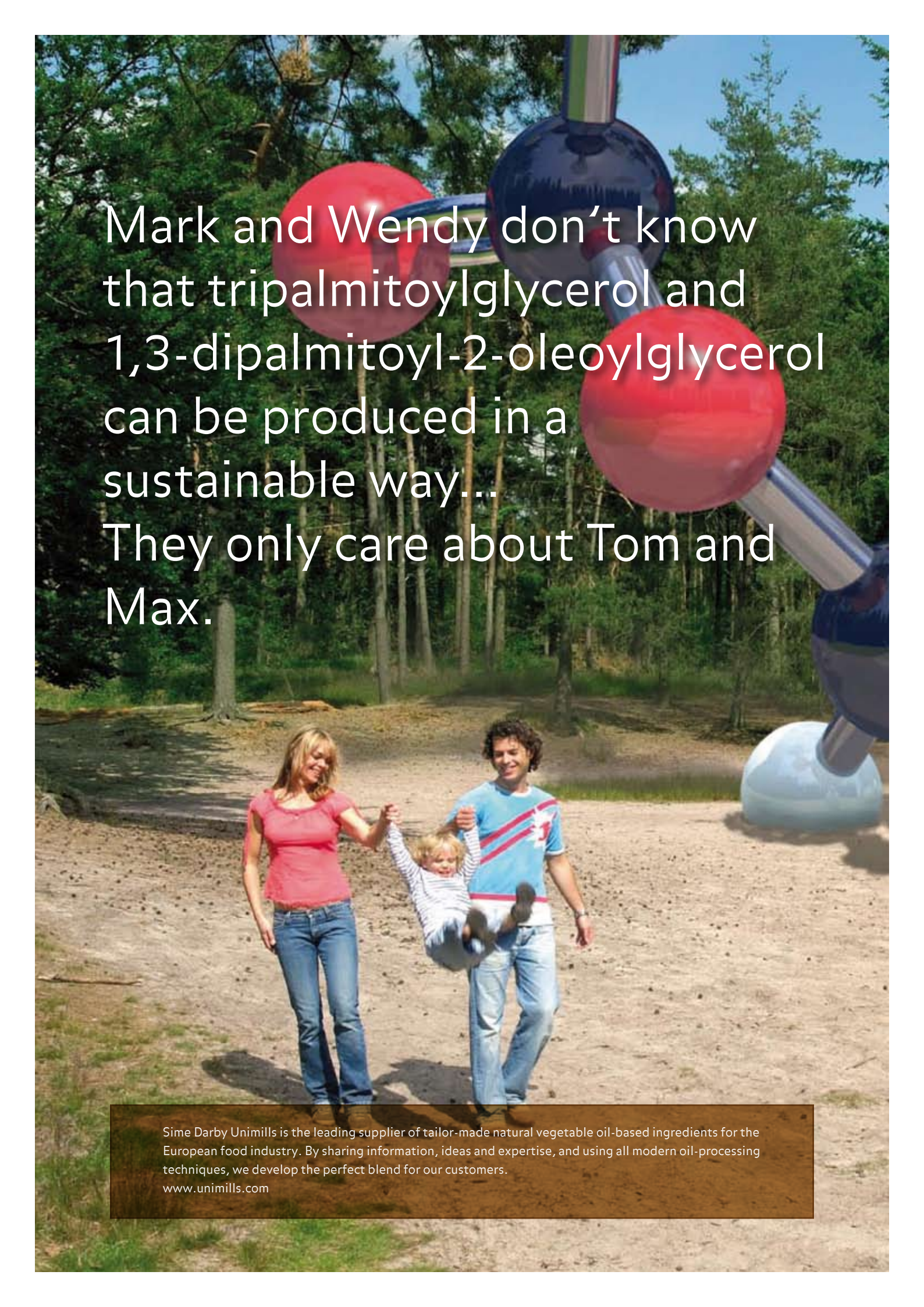
SIMPLY INDULGENT



CONFECTIONERY FATS



A Sime Darby Plantation Company

A family of three—a woman in a pink shirt and blue jeans, a man in a blue and white striped shirt and blue jeans, and a young child in a striped shirt—are playing in a sandy park. The man is lifting the child into the air. In the background, there is a large, colorful molecular model with red and blue spheres and silver rods. The scene is set in a wooded area with tall trees under a clear blue sky.

Mark and Wendy don't know
that tripalmitoylglycerol and
1,3-dipalmitoyl-2-oleoylglycerol
can be produced in a
sustainable way...
They only care about Tom and
Max.

Sime Darby Unimills is the leading supplier of tailor-made natural vegetable oil-based ingredients for the European food industry. By sharing information, ideas and expertise, and using all modern oil-processing techniques, we develop the perfect blend for our customers.
www.unimills.com

MasterCraft® Confectionery fats

Confectionery products of all kinds have always been thought of as the ultimate indulgence, and for a good reason: the taste sensation is unlike any other product. Hence the extreme popularity of chocolate products. MasterCraft® is our brand of simply indulgent confectionery fats designed for products such as biscuits, chocolate bars, pralines, nougats and fudges. The MasterCraft® selection meets consumer demand for luxurious products that look good and deliver the ultimate taste experience so loved in products of indulgence. Furthermore, the MasterCraft® products are trans-free, allowing consumers to indulge without compromising a healthier lifestyle.



MasterCraft®

SIMPLY INDULGENT

Why are our MasterCraft® confectionery fats simply indulgent? Our responsiveness means we can offer rapid solutions with proven products to give your consumers the indulgent taste experience they love. We simplify the complex confectionery market by being open and transparent, and by sharing information, ideas and expertise.

We carefully create confectionery fats that release specific volatile flavour compounds. By improving the full flavour release, smooth texture and appearance, your product will have that rich, indulgent, melt-in-the-mouth feel so enjoyed by consumers.

MasterCraft® confectionery fats have been designed for use in an extensive range of confectionery products. MasterCraft® formulations have a tailor-made melting behaviour and are ideal for processing creams, fillings or coatings.



Making the right selection

Ingredient selection is key to producing high quality products. Making an indulgent product is all about using the right MasterCraft® confectionery fat. We offer MasterCraft® products as high quality and serious alternatives to traditionally available fillings and creams.

To meet consumer needs, confectionery manufacturers are always looking for clever ways to improve the health characteristics of confectionery fats, and to improve product quality. At the same time, they need to maintain the taste of products and build on the consumer experience by increasing flavour release, a smooth texture, and visual appeal. Their challenge is to offer innovative product ideas with added health benefits.

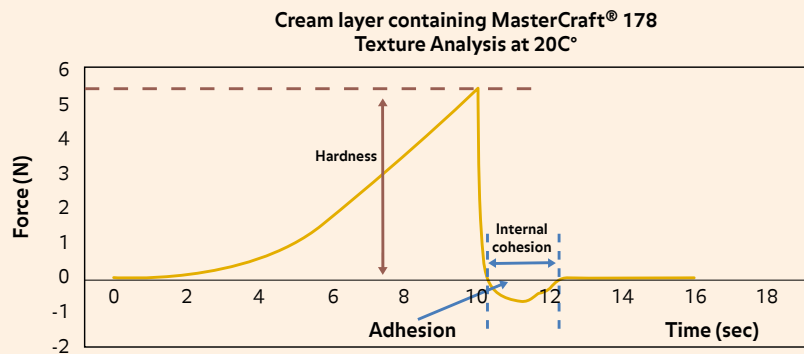
MasterCraft® Products

MasterCraft® 100 series	Cream layer fats
MasterCraft® 200 series	Centre filling fats
MasterCraft® 300 series	Solid barrier fats
MasterCraft® 400 series	Top coating fats



MasterCraft® Cream layer fats

Biscuit and wafers with a cream layer are a consumer favorite because of their refreshing taste and mouth feel. Many biscuit and wafer products are built up in layers, interspersed with one or more cream layers. Several different elements are needed to achieve this. First, the cream needs to attach readily to the biscuits or wafers during production. Secondly, the cream layer should be sufficiently cohesive to prevent easy separation of the cream layer sandwich. Lastly, the cream must not squeeze out of the layers under pressure, for example when the consumer bites into the product.



The response of the crystal network in a Unimills MasterCraft® 178 Cream Layer fat to an external pressure can be measured in detail by performing a compression experiment. This experiment measures the force needed to push a probe into a cream, as well as the force needed to pull the probe back out. The shape of the curve after 14 seconds contains information about the firmness, adhesion and cohesion of the filling.

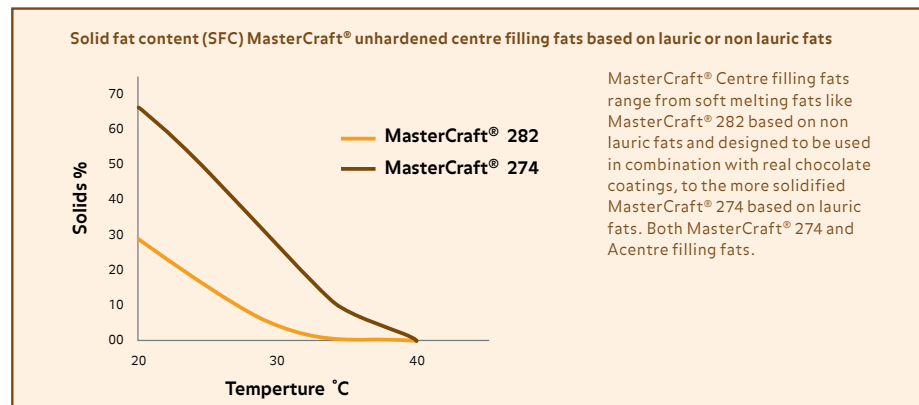
As well as the MasterCraft® 178, we offer an extensive range of other MasterCraft® Cream layers. Using our product development service we can tailor your cream layer to achieve that great taste experience for your product.



MasterCraft® Centre filling fats

Consumers love the taste sensation of filled chocolates such as pralines or bonbons and nougats or fudges. The first bite into these indulgent products should provide a smooth, soft taste of the filling. Fillings are a fat continuous phase in which other ingredients, such as sugar and nut fragments, are finely dispersed. MasterCraft® Centre filling fats are based on either lauric or non-lauric fats. The choice for using one of these types depends whether real chocolate or compound chocolate is used in the end product.

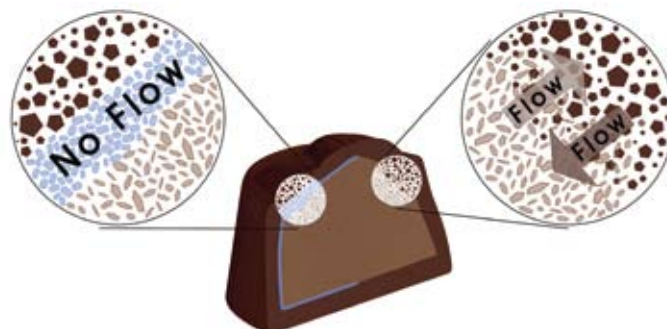
A key function of the centre filling fat is to provide the desired mouthfeel resulting in the indulgent perception upon eating. The taste and mouth-feel are influenced by the melting behaviour and flow behaviour of the fat in the centre filling. This melting behaviour can be expressed as solid fat content (SFC) at certain temperatures. Whatever the desired effect, it's preferable for the centre filling to melt at mouth temperature, otherwise the consumer may experience an unpleasant waxy mouth feel. The centre filling fat blend needs careful tailoring to meet each indulgent confectionery application. The MasterCraft® Centre filling fats give excellent melting behaviour to your final product.

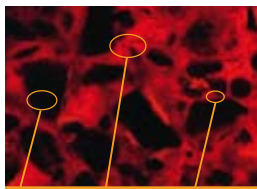


Presence of a cone-like structure on the surface of chocolate stored against a cream filling. Dérick Rousseau and Paul Smith, *Soft Matter*, 2008, 4, 1706 - 1712, DOI: 10.1039/b718066g reproduced by permission of The Royal Society of Chemistry

MasterCraft® Solid barrier fats

The choice of confectionery products is vast, from sugar-coated confectionery to filled bonbons. These products are particularly vulnerable to the interaction between the filling and the shell. During storage the filling can migrate into the shell, but the shell can also migrate into the filling. Fillings can lose their smooth texture, and shell can become soft and develop fat bloom. Fat bloom formation, recognized by its hazy white appearance, spoils the gloss and the quality of the shell. While fat blooming affects the visual quality, oil migration can lead to a deterioration of the taste experience.





Sugar crystal

Cocoa particle

Needles: fat crystals

■ Continuous fat phase



There are several solutions to this problem, including ensuring the filling and the coating are compatible. For instance, the migration of oil can be reduced or even prevented when a so-called solid barrier fat, like MasterCraft® 340, is placed at the interface between the incompatible fats. The use of MasterCraft® Solid barrier fats can be tailored depending on the ratio of the thickness of the shell to the filling.

MasterCraft® Top coating fats

The coating is the part of the confection first seen by the consumer on top of bakery products, ice creams or chocolate confectionery. That's why the coating should have a wonderful glossy, crack-free appearance. The glossiness is achieved by choosing fat blends that produce a network of small crystals and are not susceptible to uncontrolled fat crystallization.

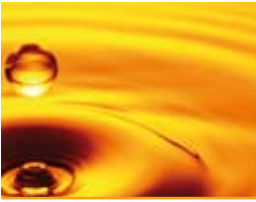
In order to minimize reduce crack formation the fat crystal network in a coating must have some flexibility. Information about the flexibility of a coating and its hardness can be obtained by measuring the force needed to break the coating. The hardness is also related to the solid fat content at ambient temperature.

At the same time, the coatings should provide some hardness to the product so that the consumer experiences a snap while taking the first bite. MasterCraft® 471 is a premium trans-free unhardened top coating fat for the production of fat or sugar-coated bakery products. This product provides the right level of hardness so the consumer experiences the snap sensation.



Enrich confectionery with natural lecithin

At our production site we have blending facilities to enrich natural vegetable oils with other ingredients. We are one of the leading producers of producing natural lecithin. Our scientists have in-depth knowledge about the functionality of lecithin in your confectionery and can help you to make the right selection.



Our approach

Our reputation for high-quality confectionery fats is based on our in-depth knowledge and experience of processing oils and fats gained over almost 100 years. We believe that the best products are created through an approach of transparency and partnership. Transparency is a key element of success with the aim to innovate and manufacture ingredients effectively and responsibly.

At our site in Zwijndrecht, The Netherlands, we have all modern oil-processing techniques such as interesterification, double-fractionation and enzymatic re-arrangement. We are a leading producer of lecithin products modified by enzymatic hydrolysis or alcohol fractionation. We can add lecithin, flavours or natural colourants to the final oil blend. Sharing information, ideas and expertise, allows us to develop the perfect blend or recipe for our customers with shorter lead times and higher success rates.



Our responsibility is to ensure that each step from palm seedling to your product is sustainable.

Strategic thrusts

First and foremost, consumers look for products they enjoy. However, today's consumers are increasingly aware of health and environmental issues. Their enjoyment of a product increasingly depends on the knowledge that the product has been produced in an ethical, environmentally friendly and sustainable way. They want to eat good food and feel good about the choices they make. The MasterCraft® range delivers on this desire.

Most of our tropical raw materials come from sustainable sources: the estates of our Sime Darby plantations in Malaysia and Indonesia. Sime Darby, our parent company, is a founding member of the Roundtable on Sustainable Palm Oil (RSPO). We see it as our responsibility to source our raw materials from sustainable sources and to help all our customers to switch over to sustainable palm oil based products. As a company we believe that we can only have a successful future if we make sure it's a sustainable one.

We adhere to strict quality assurance standards, from raw material sources to final products. We have adopted various food standards such as HACCP, ISO, BRC and IFS.

Our strategic thrusts of Innovation and Responsibility are embedded in MasterCraft® Confectionery fat formulations. By applying these thrusts to every aspect of our work, we are committed to meeting your needs and the needs of your customers, the consumers.



*Developing
Sustainable
Futures*

Contact

If you would like to learn more about how you could use our expertise to successfully co-develop your products, please contact our sales department or product development experts:

T : +(31) 78 610 99 11
E : sales@simedarby.nl
: innovation@simedarby.nl
W : www.unimills.com

Sime Darby Unimills B.V.
Lindtsedijk 8
3336 LE Zwijndrecht, The Netherlands