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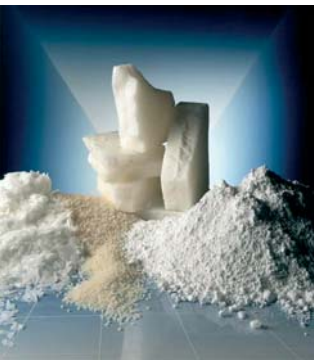

Sasol Wax

Wax is all we do. So we do it best.

Hot Melt Adhesives

Hot Melt Adhesives

Hot melt adhesives (HMA) have become part of everyday life. With the development of high speed manufacturing and processing equipment, hot melt adhesives can be found in many diverse areas. These range from furniture and shoe manufacture to packaging applications to the production of baby diapers and cigarettes.

What is a Hot Melt Adhesive?

A hot melt adhesive is a thermoplastic material, solid at room temperature, which is applied in its molten form and will adhere to a surface when cooled to a temperature below its melting point. They differ from other liquid adhesives in that they set simply by cooling rather than by chemical curing or the evaporation of a solvent.

Advantages of Hot Melt Adhesives

Hot melt adhesives being 100 % solid systems, reduce transportation and storage problems. The instantaneous bond strength supplied by these adhesives has allowed the development of high speed production machinery. Their higher viscosity compared to solvent based systems allows them to be used on various porous and non-porous substrates without sacrificing bond strength. In addition, because they do not set by means of solvent evaporation, they do not create a pollution problem. This latter fact is becoming increasingly important with the rising environmental awareness being experienced world-wide.

The role of wax in Hot Melt Adhesives

- *The low viscosity of the wax is used to reduce the high viscosity of the polymer and resin to ensure efficient mixing. This reduction in viscosity is particularly important during the application stage. A low viscosity is required to pump the molten adhesive from the storage tank to the application area and to ensure proper surface wetting when applied.*
- *The crystallinity and congealing point of the wax used control the open and set times of the HMA, as well as the flexibility and elongation properties.*
- *Wax plays a major role in increasing the blocking point of the final adhesive, preventing the adhesive pastilles from sticking together during transport and storage.*
- *The high temperature properties of a hot melt adhesive are largely controlled by the melt range of the wax being used.*

A typical HMA contains 15-30 % wax.
The most important waxes for the hot melt adhesive formulator are those derived from:

Crude oil refining
- *Paraffin waxes*
- *Microstalline waxes*

Synthesis
- *Fischer-Tropsch waxes*

Sasolwax Fischer-Tropsch Waxes

The linear structure of Sasolwax Fischer-Tropsch waxes gives a HMA the unique characteristics of low viscosity combined with high crystallinity, which makes them ideally suited to the requirements of modern packaging adhesives. Depending on the end use of the adhesive, a number of different Sasolwax grades have been developed to improve specific HMA characteristics such as high temperature performance, fast setting times, improved adhesion and flexibility at low temperatures.

Sasolwax Fischer-Tropsch Waxes

Product Name	Congealing Point (°C)	Oil Content (%)	Penetration @ 25 °C (0,1 mm)
Sasolwax	DIN ISO 2207 ASTM D 938	DIN ISO 2908 ASTM D 721	DIN ISO 51579 ASTM D 1321
C80	78 - 83	0.75 max	7 max
H1	96 - 100	1.5 max	1 max
H105	102 - 108	1.0 max	1 max

Sasolwax Microcrystalline Waxes

The low molecular mass of Sasolwax microcrystalline waxes provides the low viscosity required for efficient mixing of a HMA.

The highly branched structure of microcrystalline waxes makes them ideal for flexible packaging, book-binding and low temperature applications.

Sasolwax Microcrystalline Waxes

Product Name	Congealing Point (°C)	Oil Content (%)	Penetration @ 25 °C (0,1 mm)	Viscosity @ 100 °C (mm²/s)
Sasolwax	DIN ISO 2207 ASTM D 938	DIN ISO 2908 ASTM D 721	DIN ISO 51579 ASTM D 1321	DIN ISO 51562 ASTM D 445
1800	68 - 73	0 - 1	18 - 22	12 - 15
9480	65 - 75	0 - 4	30 - 50	14 - 20
0907	83 - 94	0 - 1	4 - 10	14 - 18

Sasolwax Paraffin Waxes

The low molecular mass of Sasolwax paraffin waxes provides the low viscosity required for efficient mixing of a HMA.

Although the lower congealing point of paraffin waxes makes them generally non-ideal for use on their own in packaging adhesives, they are widely used as a cost -competitive blend component in certain HMA systems.

Sasolwax Paraffin Waxes

Product Name	Congealing Point (°C)	Oil Content (%)	Penetration @ 25 °C (0,1 mm)	Viscosity @ 100 °C (mm²/s)
Sasolwax	DIN ISO 2207 ASTM D 938	DIN ISO 2908 ASTM D 721	DIN ISO 51579 ASTM D 1321	DIN ISO 51562 ASTM D 445
6203	62 - 65	0 - 0.5	16 - 20	5.0 - 6.0
6403	63 - 66	0 - 0.5	16 - 20	5.5 - 6.5
6805	66 - 70	0 - 1	16 - 20	6.0 - 8.0

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Disclaimer:

This information is an indication of the scope of product application. Although is been made to the best of our knowledge, it is without guarantee. For information regarding product specification please see the „Product Data Sheet" and „Material Safety Data Sheet". All phraseology is our intellectual property right.

To find your local contact please refer to:

www.sasolwax.com/Global_Presence