

DEUREX[®]
THE WAX COMPANY



POLYETHYLENE WAXES

DEUREX[®] **E**WAX
POLYETHYLENE WAXES

SUGAR CANE WAXES

DEUREX[®] **X**WAX
SUGAR CANE WAXES

HYBRID WAXES

DEUREX[®] **H**WAX
HYBRID WAXES

RUBBER

- A flexible and durable material
- Differentiation between soft and hard rubber and between natural and synthetic rubber
- Major field of application is the production of tires, but also balloons, gloves and balls

DEUREX WAXES IN THE RUBBER INDUSTRY

- Waxes protect rubber
- Waxes improve processing and extrusion properties
- Waxes work as internal lubricant and reduce friction
- Less heat generation at the machinery during processing
- Waxes adjust viscosity
- Lower viscous rubber compounds are easier to process
- Waxes save energy
- Waxes adjust external lubrication due to continuous migration of smallest wax quantities to the surface
- Waxes improve hardness of the final product
- Waxes work as release agents
- Good insulating properties of PE waxes
 - Dielectric constant $\epsilon = 2,4$
 - Volume resistivity = $10^{16} \Omega\text{m} \times \text{cm}$ (DIN 53 482, 25 °C)

PROTECTIVE FUNCTION OF WAXES

- Waxes protect against water, sun light and ozone
- Waxes increase UV resistance
- Combined water and ozone can split the double bonds of the rubber-isoprene-compounds and micro cracks may occur
- Continuous migration of smallest wax quantities to the surface of the rubber
- Form a thin inert protective film
- Works as barrier against ozone gas and weathering
- Wax molecules facilitate the migration of ozone treatment chemicals to the surface of rubber-isoprene compounds and thus improve their activity

DEUREX WAXES FOR THE RUBBER INDUSTRY

POLYETHYLENE WAXES

DEUREX E 12

- Standard wax for high end applications
- Inert against acids and bases
- Short melting time

DEUREX E 11

- Allround and bestselling product
- Very good price-performance-ratio
- Constant migration
- Low viscous wax
- Excellent lubricant
- Shortens processing time

DEUREX E 10

- Short carbon chain structure for easy processing
- Substitute for smearing oily paraffin
- Very good price-performance-ratio
- Perfect for cost-sensitive products

FISCHER-TROPSCH WAXES

DEUREX T 39

- Linear carbon chain structure
- Very good lubricant
- Suitable for hard rubber products

SUGAR CANE WAX

DEUREX X 50

- Natural sugar cane wax for the production of ecological products
- Reduction of viscosity
- Facilitates incorporation of other additives especially when processing natural rubber
- Suitable for all kinds of cable sheathing
- Additionally this natural wax provides a silky matt gloss on the product surface

HYBRID WAXES

DEUREX H 72

- Connects sugar cane wax and montanic wax
- Suitable for ecological formulations
- Forms protective film on the surface against ozone gas and weather conditions (e.g. also against salt water during cold seasons)
- Perfect for production of durable products

DEUREX H 83

- Connects sugar cane wax and PE wax
- Suitable for ecological formulations
- PE is responsible for the constant migration to the surface
- Forms protective film against ozone gas and weather conditions (e.g. also against salt water during cold seasons)



DEUREX E 11 G



DEUREX H 83 G



DEUREX T 39 K

| | CHEMICAL DESCRIPTION | DROP POINT °C | ACID VALUE mg KOH/g | VISCOSITY mPas 140 °C | PENETRATION dmm | DENSITY g/cm ³ |
|--------------------|---|------------------|------------------------|--------------------------|--------------------|------------------------------|
| DEUREX E 10 | Non polar polyethylene wax | 100 - 110 | 0 | < 40 | 10 - 25 | 0.94 - 0.96 |
| DEUREX E 11 | Non polar polyethylene wax | 110 - 120 | 0 | < 80 | 3 - 7 | 0.94 - 0.96 |
| DEUREX E 12 | Non polar polyethylene wax | 106 - 114 | 0 | 100 - 200 | 3 - 4 | 0.93 - 0.94 |
| DEUREX T 39 | Fischer-Tropsch wax | 110 - 120 | 0 | < 20 | < 2 | 0.94 - 0.95 |
| DEUREX X 50 | Sugar cane wax | 68 - 80 | 20 - 50 | < 40 | 9 - 13 | < 0.90 |
| DEUREX H 72 | Hybrid wax, sugar cane wax and montanic wax | 78 - 88 | 15 - 25 | < 10 | 1 - 2 | 0.92 - 0.95 |
| DEUREX H 83 | Hybrid wax, sugar cane wax and PE wax | 90 - 110 | 5 - 10 | < 20 | 5 - 10 | 0.90 - 0.95 |

All data are based on our current knowledge and inform about our products and their applications. There is no assurance for certain properties and their suitability for certain applications. The customer is responsible to care for the necessary safety measures and to ensure the appropriate handling of the product. Existing industrial property rights have to be considered. An unobjectionable quality is assured within the scope of our general terms and conditions.



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