

DEUREX® EO 40 K

TECHNICAL INFORMATION

Chemical description:	Oxidized MDPE wax		
Applications:	<p><u>PVC and other plastics</u></p> <ul style="list-style-type: none"> - Can be used in all U-PVC and P-PVC applications but also in C-PVC <p>DEUREX® oxidized HDPE waxes are the best choice of lubricants especially in combination with calcium-zinc and tin stabilizers for rigid PVC products like window profiles, technical profiles, pipes and fittings.</p>		
Properties:	<p>Partially internal and external wax, highly effective wax</p> <ul style="list-style-type: none"> - Accelerates fusion - Increases torque and pressure - Synergistic effect in combination with non-polar PE waxes by reduction of melt viscosity - Attractive price-performance ratio 		
Typical dosages:	<p>Depending on the rheological requirements:</p> <ul style="list-style-type: none"> - up to 0.3 phr for PVC - up to 1.5 phr for C-PVC 		
Typical properties:	Colour:	Slightly yellow	
	Delivery form:	DEUREX EO 40 K = Fine Granules	
		Minimum	Maximum
	Penetration:	5.0 mm*10 ⁻¹	10.0 mm*10 ⁻¹
	Viscosity (140 °C):		120 mPas
	Drop point*:	98 °C	112 °C
	Density (23 °C):		0.96 g/cm³
	Acid value*:		19 mgKOH/g
			Method
			LV 4 (DIN 51579)
			LV 2 (DIN EN ISO3104)
			LV 12 (DGF M-III 3)
			LV 3 (DIN EN ISO 1183)
			DIN EN ISO 2114
	* Part of certificate of analysis		
Approvals:	<p>DEUREX® EO 40 K is approved for the production of commodities intended to come into contact with food.</p> <p>EU: Regulation (EU) 10/2011 dated 14. January 2011 – Ref.-No.: 80077 USA: FDA 21 CFR §§ 175.105, 175.300, 176.170, 176.180, <i>(Approvals with regard to limitations and migration values in the final application)</i></p>		
Additional lubricants:	<p>DEUREX® E 11 K – Homopolymer PE-wax DEUREX® EO 44 K – Oxidized HDPE wax DEUREX® T 39 K – Fischer Tropsch wax DEUREX® TO 80 G – Oxidized Fischer Tropsch wax (hard paraffin)</p>		
Alternative delivery form:	DEUREX® EO 4001 W – Water-based MDPE wax emulsion, 98% < 1 µm		

This data sheet is based on our current knowledge and experience. In view of the individual factors that may affect processing and application, this data does not relieve users from the responsibility of carrying out their own tests and experiments, neither do they imply any legally binding assurance of certain properties. Existing industrial/commercial protective laws have to be considered by the recipient. Updated versions of the data sheet replace all formerly existing versions.
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DEUREX® EO 40 K was investigated in a calcium-zinc stabilized window profile formulation containing:

- 100 phr S-PVC (k=67)
- 10 phr coated calcium carbonate, window profile grade
- 4 phr titanium dioxide, rutile, window profile grade
- 6 phr acrylic impact modifier
- 3 phr calcium-zinc stabilizer

The dry blends were mixed up to 120°C in a high speed hot mixer and cooled down to 45°C. After a relaxation time of >12 hours the dry blend was extruded on a parallel twin screw extruder KMD 35-26. The results are summarized in Fig. 1 to Fig. 4. It was also found that DEUREX® EO 40 K is very similar to equal in its influence on rheology compared to a standard oxidized LDPE wax available on the market.

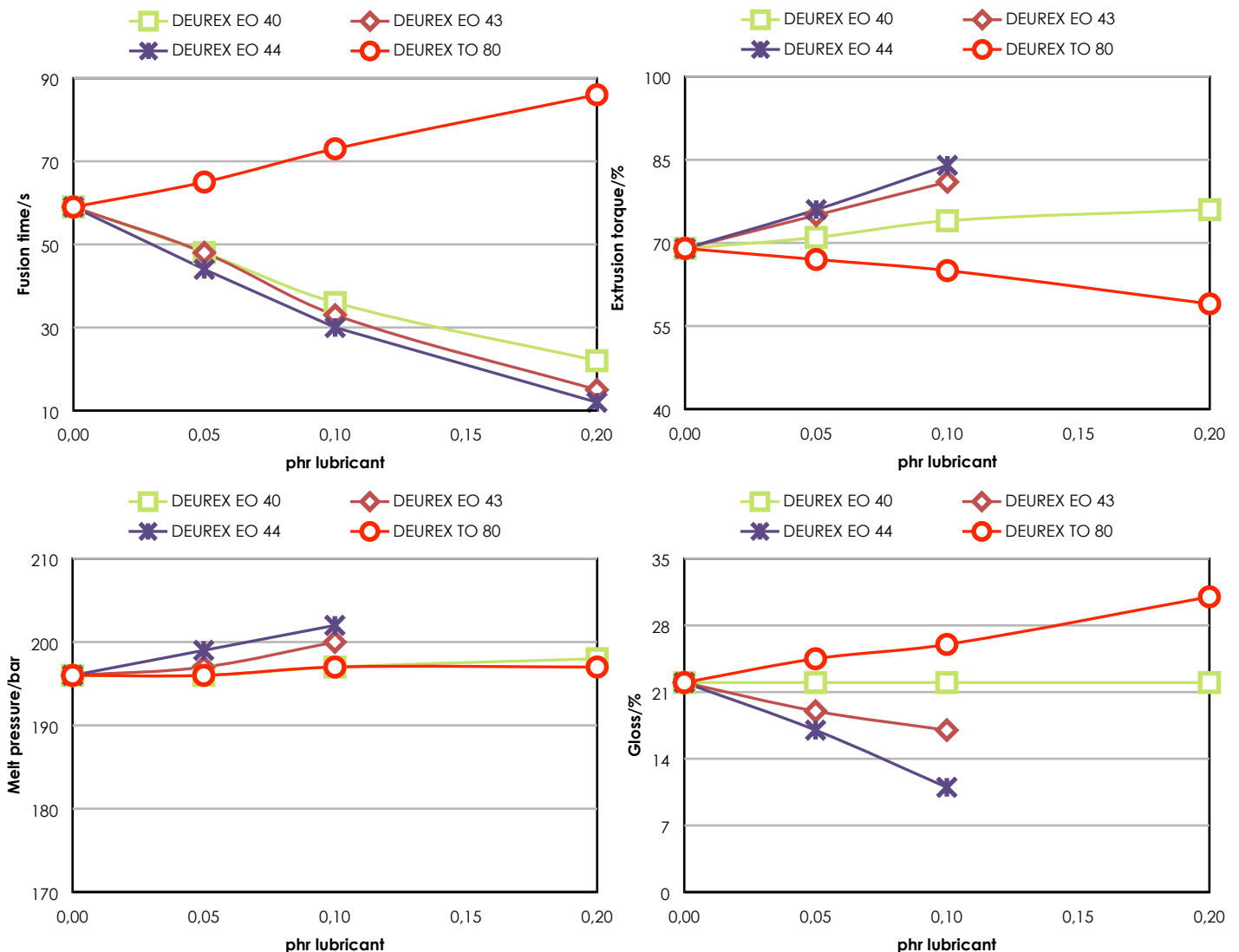


Fig. 1 to Fig. 4 Influence of the dosage of DEUREX® EO 40 in comparison to EO 43, EO 44 and TO 80 on fusion time (Fig. 1), extrusion torque (Fig. 2), melt pressure (Fig. 3) and gloss (Fig. 4)

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