

DEUREX® EO 44 K

TECHNICAL INFORMATION

- Chemical description:** Oxidized HDPE wax
- Production process:** Dry oxidation
- Applications:** PVC and other plastics
- Can be used in all U-PVC and P-PVC applications but also in C-PVC

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.

- Properties:**
- Partially internal and external wax, highly effective wax
 - Accelerates fusion
 - Increases torque and pressure
 - Synergistic effect in combination with non-polar PE waxes by reduction of melt viscosity
 - Very effective for the usage in processing PVC regrind
 - Dust free

- Typical dosages:** Depending on the rheological requirements:
- up to 0.2 phr for PVC
 - up to 0.5 phr for C-PVC

- Technical data:**
- Colour: Off-white
Delivery form: **DEUREX EO 44 K** = Fine granules

	Typical value	Method
Drop point:	138 °C	LV 12 (DGF M-III 3)
Acid value*:	16 mgKOH/g	DIN EN ISO 2114
Penetration:	0.5 mm*10 ⁻¹	LV 4 (DIN 51579)
Viscosity (150 °C):	9.000 mPas	LV 2 (DIN EN ISO3104)
Density (23 °C):	0.98 g/cm ³	LV 3 (DIN EN ISO 1183)

* Part of certificate of analysis

- Approvals:**
- EU: Regulation (EU) 10/2011
USA: FDA CFR §§ 172.260, 175.105, 175.125, 175.300, 175.320, 176.170, 176.180, 176.200, 176.210, 177.1200, 177.1210, 177.1620, 177.2600, 177.2800, 178.3570
(Approvals with regard to limitations and migration values in the final application)

- Alternative products:**
- DEUREX® EO 40 K** – Oxidized LDPE wax, acid value 19
DEUREX® EO 43 K – Oxidized HDPE wax, acid value 7

- Alternative delivery forms:**
- DEUREX® EO 44 P** – Oxidized HDPE wax, acid value 16
DEUREX® EO 4520 M – Micronized oxidized HDPE wax, 98% < 20 µm
DEUREX® EO 4501 W – HDPE emulsion, 98% < 1 µm

DEUREX® EO 44 K

DEUREX® EO 44 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 44 K is very similar to equal in its influence on rheology compared to a standard oxidized HDPE wax available on the market.

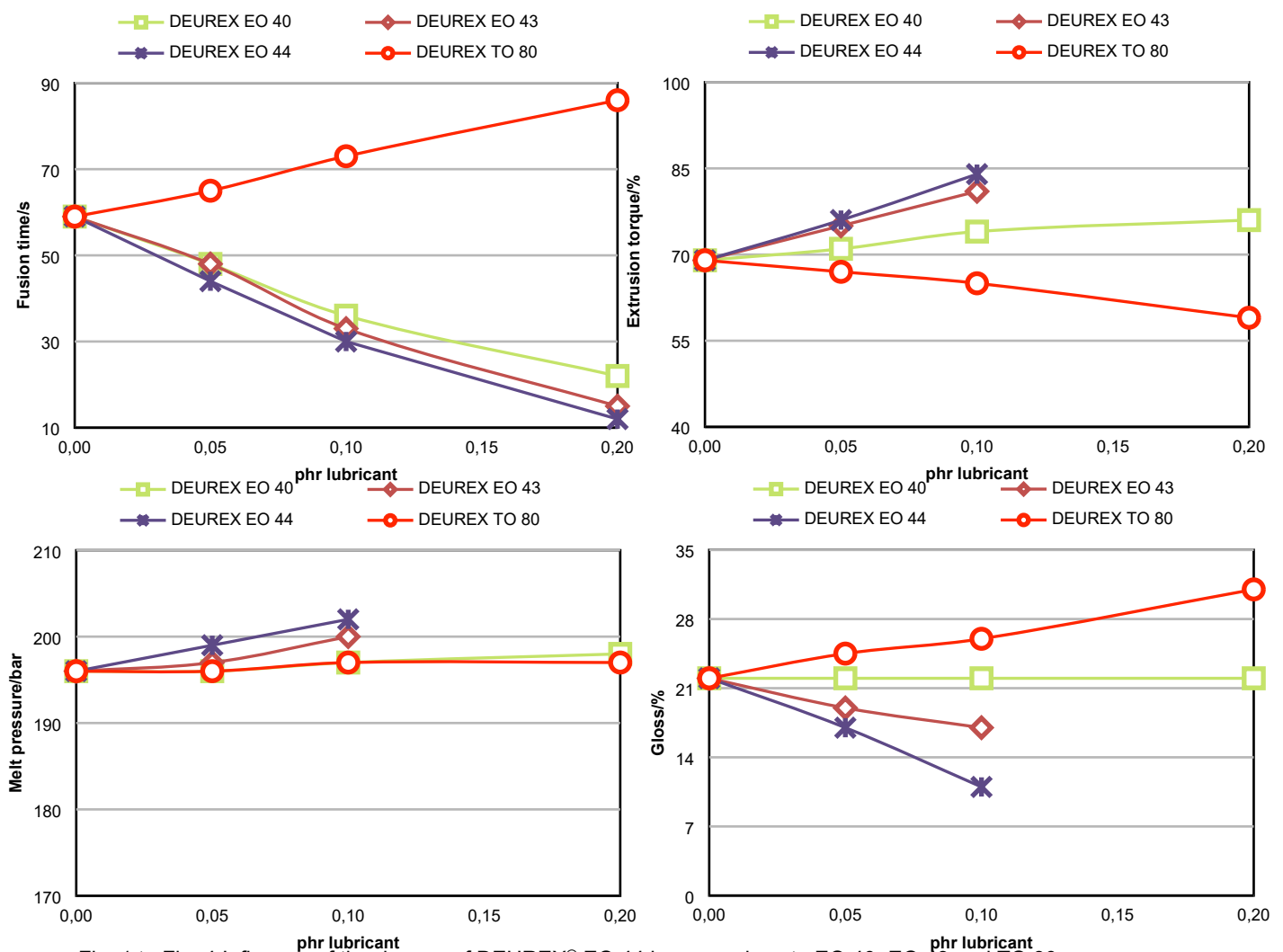


Fig. 1 to Fig. 4 Influence of the dosage of DEUREX® EO 44 in comparison to EO 40, EO 43 and TO 80 on fusion time (Fig. 1), extrusion torque (Fig. 2), melt pressure (Fig. 3) and gloss (Fig. 4)

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