

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.

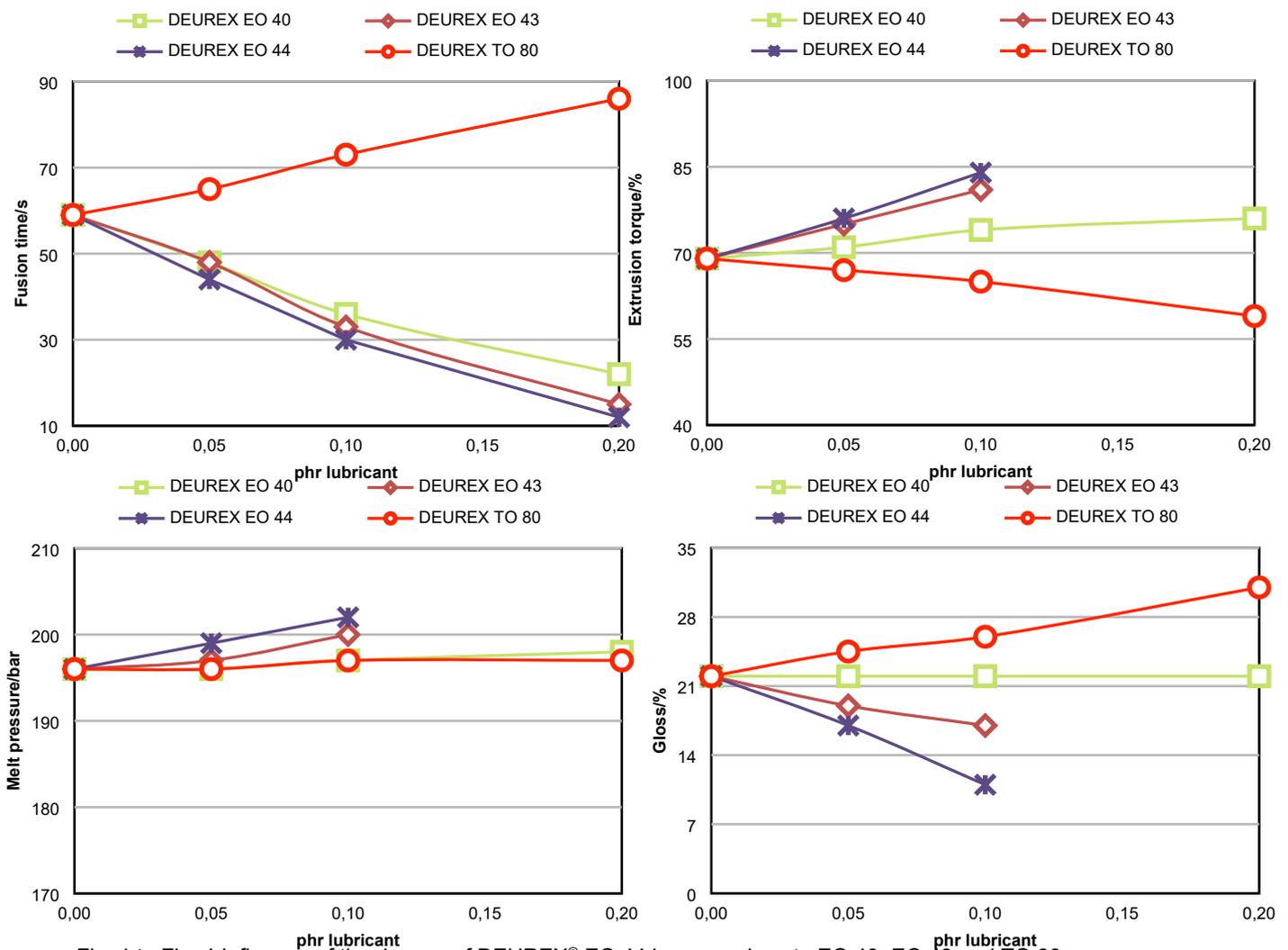


Fig. 1 to Fig. 4 Influence of the dosage of DEUREX® EO 44 in comparison to EO 40, EO 43 and TO 80 on fusion time (Fig. 1), extrusion torque (Fig. 2), melt pressure (Fig. 3) and gloss (Fig. 4)

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.