DEUREX®
THE WAX COMPANY

DEUREX® T 49 K

TECHNICAL INFORMATION

Chemical description: Fischer Tropsch wax

Applications:

PVC and other plastics

- Can be used in all U-PVC and P-PVC applications but also in C-PVC

DEUREX® T 49 K is 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:

External wax, highly effective wax

- Delays fusion
- Decreases torque and pressure
- Decreases melt temperature
- Improves gloss of the final product

Typical dosages: Depending on the rheological requirements up to 0.5 phr

Benefits:

- Crystalline wax with very narrow c-chain distribution
- Very fast solidification, congealing point at 100 °C

Technical data:

Colour: White / Off-white
Delivery forms: **DEUREX® T 49 K** = Fine granules

	Minimum	Maximum	Method
Drop point*:	112 °C	120 °C	LV 12 (DGF M-III 3)
Acid value:		0 mg KOH/g	DIN EN ISO 2114
Viscosity (140 °C)*:		20 mPas	LV 2 (DIN EN ISO3104)
Penetration (25 °C)*:		1 mm*10^{-1}	LV 4 (DIN 51579)
Density (23 °C):	0.94 g/cm³	0.95 g/cm³	LV 3 (DIN EN ISO 1183)

* Part of certificate of analysis

Approvals:

EU: Regulation (EU) 10/2011 dated 14. January
FRG: BfR recommendation XXV
USA: FDA 21 CFR §§ 175.105, 175.250, 175.300, 175.320, 176.170, 176.180, 177.1200, 177.1390
(Approvals with regard to limitations and migration values in the final application)

Additional lubricants:

DEUREX® E 11 K – Homopolymer PE-Wachs
DEUREX® E 40 K – Oxidized LDPE wax
DEUREX® EO 44 K – Oxidized HDPE wax
DEUREX® TO 80 G – Oxidized Fischer Tropsch wax (hard paraffin)

Alternative delivery forms: **DEUREX® T 3901 W** – Water-based emulsion

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DEUREX® T 49 K

DEUREX® T 49 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® T 49 K** is very similar to equal in its influence on rheology compared to a standard Fischer-Tropsch wax available on the market.

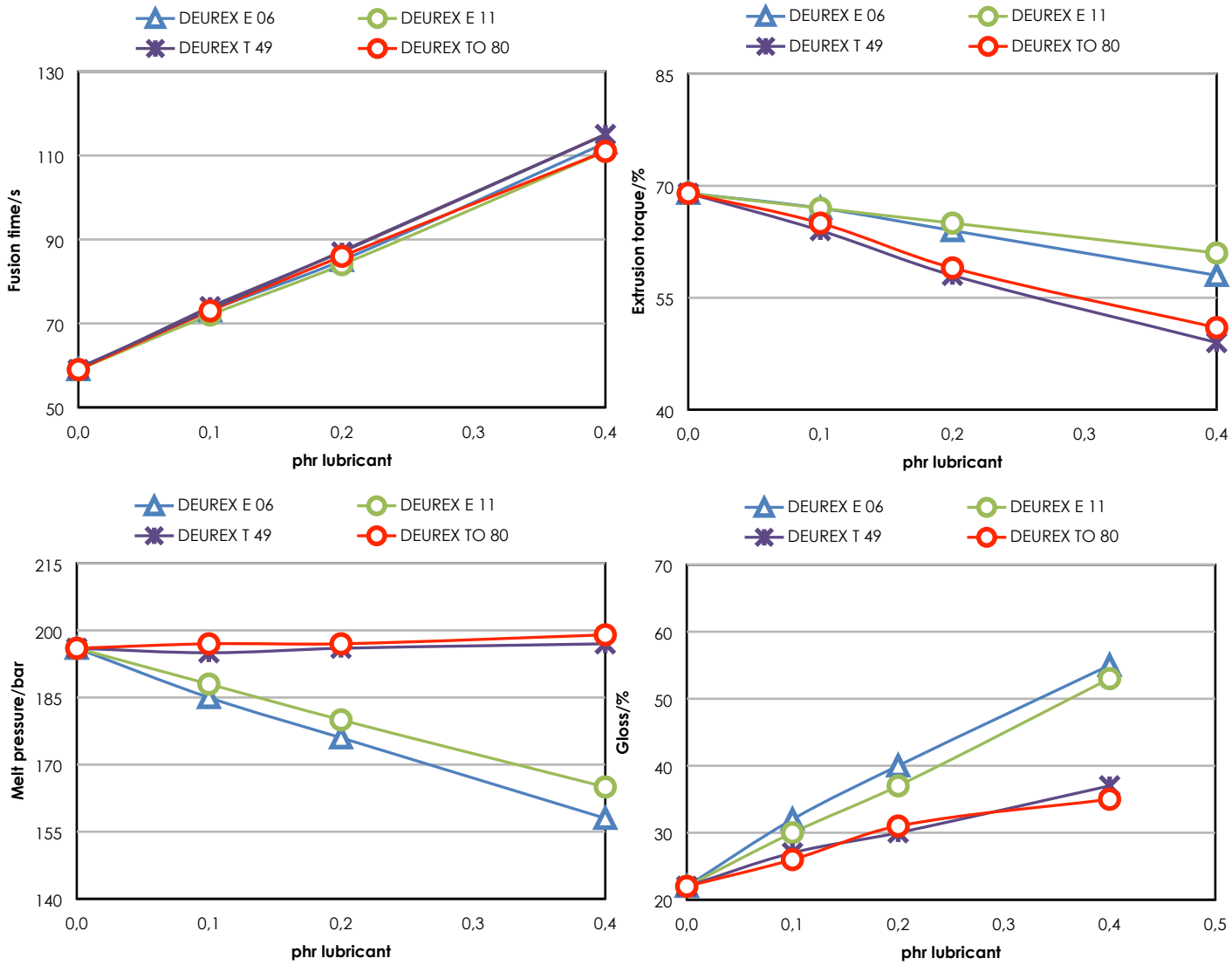

Fig. 1 to Fig. 4 Influence of the dosage of DEUREX® T 49 in comparison to E 06, E 11 and TO 80 on fusion time (Fig. 1), extrusion torque (Fig. 2), melt pressure (Fig. 3) and gloss (Fig. 4)