



LubX® CV

For higher speed
and better productivity



LubX® CV

Thermoplastics

LubX® CV

Let the facts convince you



In 2012 Röchling introduced two sliding materials for the conveyor industry: LubX® S and LubX® C. Both materials' sliding properties have been optimized specifically for their respective sliding partners.

Röchling has now developed LubX® CV: Especially for systems to be operated at higher speeds and therefore higher productivity. LubX® CV has **exceptionally good sliding properties** and at the same time exhibits a **very low temperature development**. Both results in **lower wear** and a **longer lifespan** of the entire system.

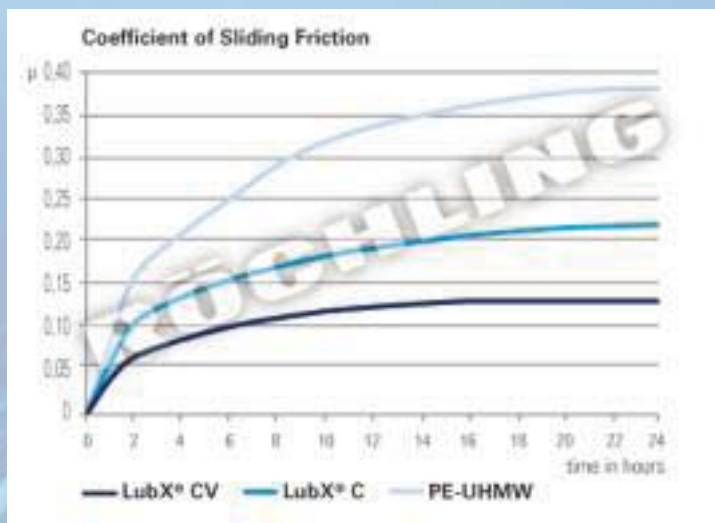
In scientific studies in cooperation with the Technical University of Chemnitz, Institute for Material Handling and Plastics, and the University of Erlangen, Institute of Polymer Technology, LubX® CV has met the high demands. Let the facts convince you.

Contact: lubx@roechling-plastics.com

Low Coefficient of Sliding Friction

The tests were carried out at the company's materials laboratory on a tribology test apparatus developed in co-operation with scientists. In order to adapt the test procedure to the increased requirements, the conditions were significantly increased for the application-oriented test: The speed was doubled to 0.5 m/s and the surface pressure was doubled to 0.5 MPa.

Under these increased demands LubX® CV exhibited **by far the lowest coefficient of sliding friction** at only $\mu: 0.13$ and the **shortest run-in phase**.



Coefficient of sliding friction under dry conditions, validated on Röchling's application-level tribology test apparatus, speed: 0.5 m/s, surface pressure 0.5 MPa, test time 24 hours

LubX® CV

Provable properties offer advantages

Your benefits with LubX® CV

- Reduced energy consumption
- Less stress on all parts of the conveyor system
- Significantly reduced temperature development
- Long life
- Increased process stability
- Lower noise emission
- Shorter run-in phase
- Longer maintenance intervals

Properties of LubX® CV

- Excellent sliding properties even at higher velocities and pressure loads
- Excellent dry running properties
- High wear resistance
- Food Compliance according to 10/2011/EU, 1935/2004/EC, FDA
- GMP-compliant according to 2023/2006 EC
- Good machinability

Product range

Semi-finished products

Sheets, rods
Color: Ultramarine blue RAL 5002

Extruded profiles

Over 600 profile cross-sections available

Finished parts

Machining on CNC machining centers according to customer drawings



Conveyor technology



Food industry



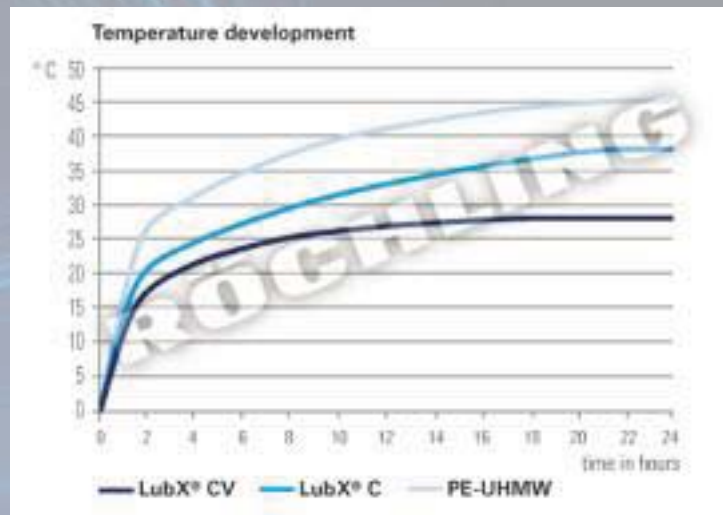
Automation

LubX® CV

Lowest temperature and lowest energy intake

Low temperature development

During the test of the coefficient of sliding friction, an infrared sensor (pyrometer) measures the temperature development directly on the friction surface of the sample without contacting it. The measured temperature of LubX® CV in the test does not rise over 28° C, which was up to 17° C below the other material samples. In addition, the LubX® CV sample shows almost **no signs of wear** after 24 hours.



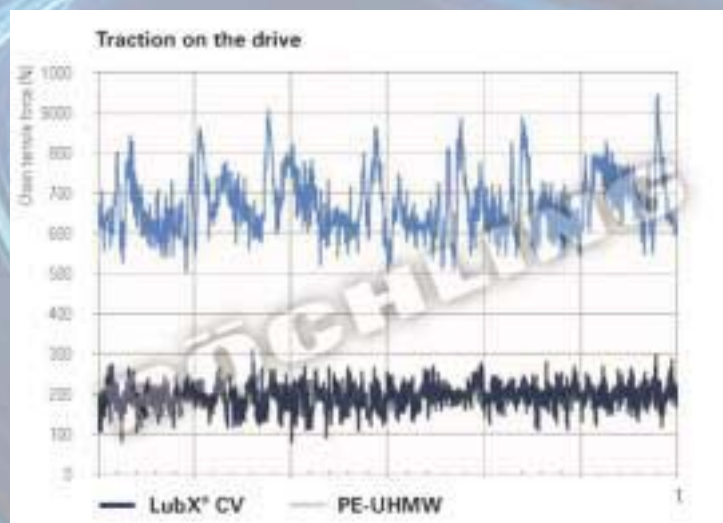
Temperature development under dry conditions, validated on Röchling's application-level tribology test apparatus, speed: 0.5 m/s, surface pressure 0.5 MPa, test time 24 hours

Compare the

Efficient energy use

To measure the tensile force on the drive LubX® CV was tested in comparison with a standard PE-UHMW on an application oriented conveyor belt system.

The graph shows that the measured value for LubX® CV (mean = 193 N) is less than 30 % of the value for PE-UHMW (mean = 669 N). The electrical **energy consumption** of the drive was also correspondingly lower with LubX® CV. The significantly lower amplitudes of the measured curve for LubX® CV are also evidence of significantly **improved process stability** and a **lower noise development**.



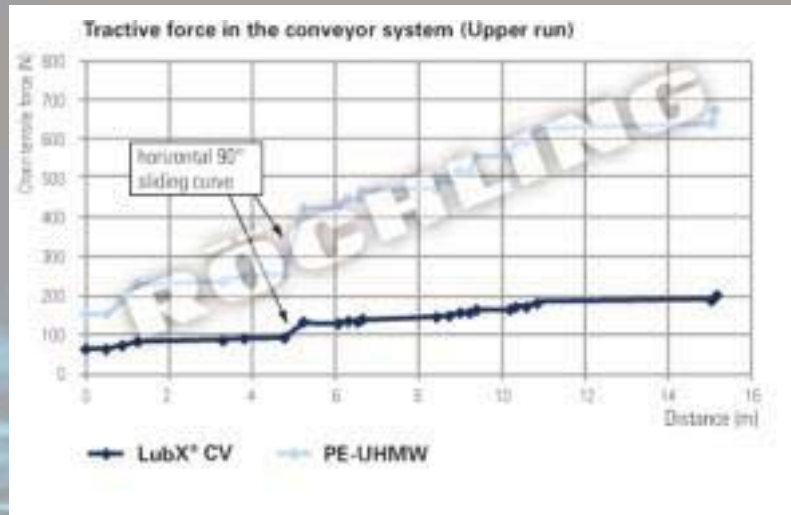
Traction on the drive during a complete chain run: speed 0.68 m/s, Chemnitz University of Technology, Institute for Material Handling and Plastics

LubX® CV

Increased process stability

High process stability

The graph shows the theoretical tractive force development within a complex conveyor belt system utilizing LubX® CV and PE-UHMW chain guides under the assumption of the measured coefficient of sliding friction. The curved areas within the test section can be clearly identified by the increase in tractive force in the graph. The flat tractive force development utilizing LubX® CV on the entire track **conserves the conveyor chain** and contributes to a **high process stability**.

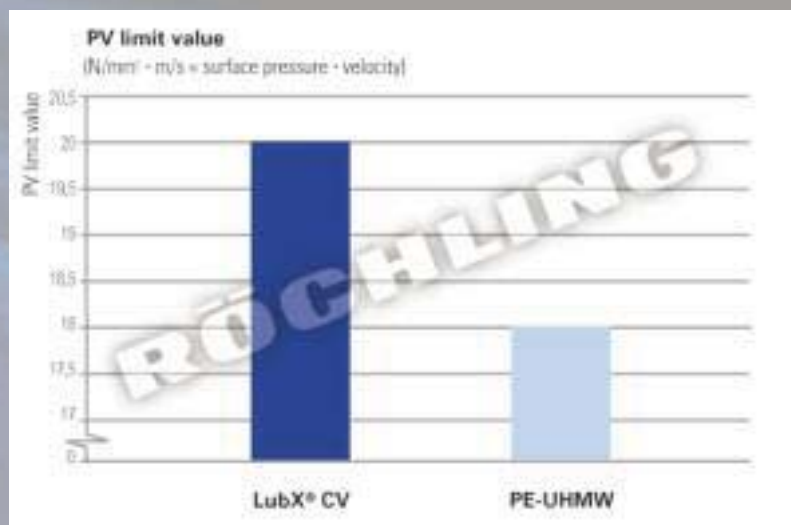


Tractive force in the conveyor system, Chemnitz University of Technology, Institute for Material Handling and Plastics

Performance!

Less wear

For the consideration of the wear properties of a material also the so-called PV-limit value is used, which is calculated as a factor from the surface pressure (P = pressure) and the test speed (V = velocity). In the test LubX® CV reached a PV limit of 20.



Pin-on-disc test conducted by the University of Erlangen/Institute of Polymer Engineering, steel disc: 100 Cr6, Rz 1.0 microns, surface pressure: $p = 4.0 \text{ N/mm}^2$, ambient temperature: $T_a = 23^\circ \text{ C}$, ambient medium: technically dry



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